

ANGLIA RUSKIN UNIVERSITY

FACULTY OF ARTS, LAW AND SOCIAL SCIENCES

A PRACTICE BASED INVESTIGATION
USING DESIGN AND ILLUSTRATION
TO EXPLORE
THE ROLE OF NARRATIVE IN NONFICTION PICTUREBOOKS

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A thesis in the partial fulfilment of the
requirements of Anglia Ruskin University
for the degree of PhD

(Part 1/3)

Submitted: May 2017

ACKNOWLEDGEMENTS

Firstly, I would like to thank my supervisor Professor Martin Salisbury for his continuous support throughout the course of this research study. Without his guidance, encouragement, immense knowledge and nudges in the right direction the research wouldn't have developed in the way that it did.

I would also to thank my friend Marialexa Olivera-Smith for sharing with me her inspiring first-hand knowledge of Latin American culture and for helping me edit my writing. A special thank you also goes to my friends Mike and Rob Sullivan for their time, expert advice and skills in bookbinding.

I am very grateful to all the picturebook artists that have kindly allowed me to include images of their artwork in this thesis. In particular I would like to mention the artist Collette Portal who very generously gave me her time, picturebooks and hospitality.

Finally a thank you to all my family, especially: my mother for indulging my *Hylocereus* obsession and helping me document the lifecycle of this and other cacti, my father for helping me build my own printing press and my daughter Pearl for her enthusiasm and ideas when they were most needed.

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ABSTRACT

FACULTY OF ARTS, LAW AND SOCIAL SCIENCES

DOCTOR OF PHILOSOPHY

A PRACTICE-BASED INVESTIGATION USING DESIGN AND ILLUSTRATION
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This research took place to explore the role of narrative in nonfiction picturebooks and provide a better understanding of children's nonfiction picturebooks from the perspective of the picturebook artist. The study evolved from an observation that within the children's picturebook genre there exists an undefined category of picturebooks that present nonfiction material using fictional stories. It coincided with a moment in time when books of nonfiction content were becoming increasingly popular, evidenced by increased sales and market growth, contrary to the rest of the book market.

The use of reflective-in-action and reflective-on-action methods was based on a theoretical framework of three approaches (design practice, design exploration and design study) and led to an understanding of both the practice and the nonfiction picturebook as an object with multiple functions. The approaches allowed a critical evaluation of a series of experiments and this in turn informed the practice and allowed theories and new understandings to be reached.

The investigation identified four types of narratives for picturebooks: visual fiction and nonfiction and verbal fiction and nonfiction and proposes a model for analysing the interaction of the narratives.

An opportunity to investigate the use of glow-in-the-dark ink in a narrative context presented itself during the course of the experiments. The result of this part of the research is presented in a concertina book that uses glow-in-the-dark ink to create a nonfiction narrative.

The research concludes that whilst most picturebooks are composed of all four narratives to some degree, nonfiction picturebooks are made up of a larger overlap of these narratives. Nonfiction picturebooks offer more opportunities for counterpoint and are therefore particularly exciting. As such a differentiation between fiction and nonfiction in the genre of picturebooks is suggested.

Keywords: nonfiction, narrative, picturebooks, glow-in-the-dark, Narrative Interaction Model, reflective practice

Table of Contents

Acknowledgements.....	i
Abstract	ii
Table of Contents.....	iii
Table of Figures	vi
Copyright.....	viii
Chapter 1: Introduction	1
1.1 Thesis structure.....	2
1.2 The Written Thesis	2
1.3 The Visual Thesis.....	3
1.4 The Artefact.....	4
1.5 Terminology.....	4
Chapter 2: Research Context	6
2.1 A Brief History	6
2.2 Nonfiction picturebooks in the 21 st century.....	12
2.3 Academic Context	15
Picturebook theory.....	15
Learning theories	17
2.4 The Practitioner's Voice	19
2.5 Personal Context.....	22
Background – Upbringing	22
Pattern	23
Learning.....	23
First Studies and Work Experience	23
Art Studies	24
My Practice	24
2.6 The gap in knowledge	25
Chapter 3: Theoretical Framework and Methodology.....	26
3.1 Applying Fallman's Research Triangle to Picturebook Design and Illustration	26
3.2 A starting point: Tacit knowledge and reflective practice	30
3.3. My approach - Plans and Actions.....	31
3.4 Recording the process	32
3.5. Timeframe, Workplace and Feedback	33

3.6. Identifying as a researcher	34
Chapter 4: The First Experiments	36
Making a Start.....	37
4.1. Adapting nonfiction to incorporate fiction: A B Sea	37
4.2. Adapting Fiction to Incorporate Nonfiction: Martina	40
4.3. Simultaneous development of a nonfiction and fiction narrative for a fictional story: Martha Mystery	44
Chapter 5: The Narrative Interaction Diagram	47
5.1. A concise selection.....	47
5.2. The Narrative Interaction diagram.....	48
5.3 Science and Natural History Picturebooks	50
5.4. Culture/Travel.....	55
5.5. Mathematics	59
5.6. History/Art History Picturebooks.....	61
5.7. Alphabet Picturebooks	66
5.8. Conclusion.....	67
Chapter 6: The Wilder West: A Glow-in-the-Dark Adventure.....	68
6.1 The source of the idea.....	68
6.2 Experimenting with fiction and nonfiction narratives	70
6.2.1 Storyboard A: Using nonfiction visual and verbal narratives	71
6.2.2 Storyboards B and C: Using fantasy to create a fiction visual and verbal narrative	72
6.2.3 Storyboard D: Using anthropomorphism for secondary fiction visual and verbal narratives	74
6.2.4 Storyboards E: Using temporality and patterns as a visual narrative	75
6.2.5 Storyboard F: Interactive illustrations within the narrative	76
6.3 The glow-in-the-dark book: developing narratives through structure, materials and illustration techniques.....	76
6.3.1 A brief history of phosphorescence and the first GITD book	76
6.3.2 Glow-in-the-dark Children's Books	78
6.3.3 Concertina Structure	79
6.3.4 Botanical Illustrations.....	81
6.3.5 Alebrijes and Amates.....	83
6.3.6 Pattern making and choice of digital.....	85
6.3.7 Layout and Colours.....	86
6.3.8 Glossary and Information Accuracy	87
6.3.10 Cover and Paratexts	88

6.3.11 Practical Considerations	89
Chapter 7: Conclusion	93
7.1 Further Research	94
References.....	96
Bibliography	104
Appendix	106
Appendix 1: Dive into the A B Sea	106
Appendix 2: The story of Martina	107
Appendix 3: Martina and Mr Perez.....	108
Appendix 4: Martha Mystery and the Missing Art of Barcelona.....	112
Appendix 5: The Dragon's Fruit Quest	113

Table of Figures

Figure i: Adaptation of the Interaction Design Model as presented by Fallman (2008, p.14).....	29
Figure ii: Interaction possibilities between narratives in picturebooks of nonfiction context	48
Figure iii: The dance, <i>Booby Hatch</i> (Lewin, 1995)	50
Figure iv: Indicative narrative interaction analysis for <i>Booby Hatch</i> (Lewin, 1995)..	51
Figure v: <i>The Life of a Queen</i> (Portal, 1962, p14)	52
Figure vi: Indicative narrative interaction analysis for <i>The Life of a Queen</i> (Portal, 1962).....	52
Figure vii: <i>North</i> (Dowson & Benson, 2011).....	53
Figure viii: Indicative narrative interaction analysis for <i>North</i> (Dowson & Benson, 2011).....	53
Figure ix: <i>Mr. Archimedes' Bath</i> (Allen, 1980)	54
Figure x: Indicative narrative interaction analysis for <i>Mr. Archimedes' Bath</i> (Allen, 1980).....	54
Figure xi: <i>The Very Hungry Caterpillar</i> (Carle, 1970).....	54
Figure xii: Indicative narrative interaction analysis for <i>The Very Hungry Caterpillar</i> (Carle, 1970).	55
Figure xiii: <i>Around the world with Mouk</i> (Boutavant, 2009).....	56
Figure xiv: Indicative narrative interaction analysis for <i>Around the world with Mouk</i> (Boutavant, 2009)	56
Figure xv: <i>A Walk in London</i> (Rubbino, 2011)	57
Figure xvi: Indicative narrative interaction analysis for <i>A Walk in London</i> (Rubbino, 2011).....	57
Figure xvii: <i>Olivia goes to Venice</i> (Falconer, 2010)	58
Figure xviii: Indicative narrative interaction analysis for <i>Olivia goes to Venice</i> (Falconer, 2010).....	58
Figure xix: <i>Lion in Paris</i> (Beatrice Alemagna, 2006).....	59
Figure xx: Indicative narrative interaction analysis for <i>Lion in Paris</i> (Beatrice Alemagna, 2006).....	59
Figure xxi: <i>Anno's Mysterious Multiplying Jar</i> (Anno, 1982)	60
Figure xxii: Indicative narrative interaction analysis for <i>Anno's Mysterious Multiplying Jar</i> (Anno, 1982)	60
Figure xxiii: <i>The Rabbit Problem</i> (Gravett, 2009).....	61

Figure xxiv: Indicative narrative interaction analysis for <i>The Rabbit Problem</i> (Gravett, 2009).....	61
Figure xxv: Double page spread from <i>Shackleton's Journey</i> (Grill, 2014).....	62
Figure xxvi: Indicative narrative interaction analysis for <i>Shackleton's Journey</i> (2014)	63
Figure xxvii: <i>Katie and the Starry Night</i> (Mayhew, 2012).....	63
Figure xxviii: Indicative narrative interaction analysis for <i>Katie and the Starry Night</i> (Mayhew, 2012)	64
Figure xxix: <i>Willy the Dreamer</i> (Browne, 1997)	65
Figure xxx: <i>Willy's Pictures</i> (Browne, 2000).....	65
Figure xxxi: Indicative narrative interaction analysis for <i>Willy's Pictures</i> (Browne, 2000).....	65
Figure xxxii: <i>Mystery Auction</i> (Nilsen and Ford, 2005)	66
Figure xxxiii: Indicative narrative interaction analysis for <i>Mystery Auction</i> (Nilsen and Ford, 2005)	66
Figure xxxiv: <i>Once Upon an Alphabet</i> (Jeffers, 2014)	67
Figure xxxv: Indicative narrative interaction analysis for <i>Once Upon an Alphabet</i> (Jeffers, 2014).....	67
Figure xxxvi: Indicative narrative interaction analysis for The Wilder West prototype.	91

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Chapter 1: Introduction

This thesis is the outcome of an investigation into the role of narrative in nonfiction picturebooks through the process of making a nonfiction picturebook. The focus on narrative is central to the research in that it defines a specific type of picturebook, one that addresses a nonfiction question using a visual or textual plot or a combination of both. Although such books exist and are acknowledged, they have not been considered, to my knowledge, as a genre of picturebooks with a specific task: to engage, entertain and educate the reader in nonfictional subjects. They have, therefore, lived in the periphery of both information books and picturebooks.

There are two key criteria that identify the nonfiction picturebook and set it apart from all other picturebooks. The first, and most obvious, is that the intention of the picturebook is to provide the reader with nonfiction information. Cambridge Dictionaries (2015) define nonfiction as 'writing that is about real events and facts rather than invented stories'. Therefore, the key subject or message of such a picturebook should fall into one of the following categories: science, history and art history, mathematics, alphabets, culture and travel. The second criterion is that the message is communicated using the picturebook format and therefore presented through a combination of pictures and words.

This thesis aims to make an original contribution to knowledge by examining the process of making this type of picturebook, by answering the emerging questions from a working practitioner's perspective. The research documents a reflective analysis of the practice, as well as a critical review of other practitioners' work in this field, to date, offering an understanding of how picturebook illustration and design can be used to enhance factually-based stories. It will address the challenges artists are presented with when creating a nonfiction picturebook and, subsequently, offer suggestions for opportunities for more picturebooks of this context to be created.

Throughout the research the term educational will refer to picturebooks whose main scope is to convey a factual message. It is not the scope of this thesis to assess the pedagogical capabilities of a picturebook in terms of how well children retain and understand the factual information. However, the importance of learning styles and the role of picturebooks in children's education will be acknowledged as part of the

contextual importance of the research in **Chapter 2**, as will be the importance of the artists' responsibility in information accuracy.

1.1 Thesis structure

The thesis consists of three parts as described below: a written account, an illustrated account and an artefact.

- The first part, of which this chapter is a part of, follows the typical format of a doctoral thesis by providing a written account that discusses the context for the research, the theoretical framework, the experiments carried out and their outcomes.
- The second part is an illustrated report supporting the first part.
- The third part of this research, the artefact, is the product of the first two accounts, in the form of a picturebook maquette, as it would be made to present the idea to a publisher. It serves the purpose of a prototype that illustrates a new idea.

The three parts provide an answer to the research question collectively and, as such, they depend on each other. It is therefore recommended that the written and visual parts are studied side by side.

1.2 The Written Thesis

Chapter 2 addresses the question of how the research contributes to a gap in knowledge and explains why carrying out the research at this particular moment in time, using a practice-based approach, is both essential and worthwhile. The first part of the chapter provides a historical review of nonfiction picturebooks, focusing on their cultural and commercial importance. This is followed by an overview of the role of picturebooks in education and learning, with an emphasis on the importance of narrative in learning. These two sections aim to underpin the relevance of the research, both inside and outside the academic remit. The second part of the chapter discusses the relevance of a practice-based approach in addressing the research question by identifying what contributions other artists have made in this field. The chapter concludes with a description of my background so as to provide a personal, artistic and professional context for the position from which I am conducting the research.

Chapter 3 outlines the theoretical framework and methodology for the research starting with an overview of tacit knowledge and the principles of reflective research.

The next part discusses the capabilities of Fallman's (2008) triangular model for research and presents an adaptation of the model appropriating it to this research. From this, a set of research approaches are specified so that the research can be conducted in an open ended yet structured way.

Chapter 4 presents the outcomes of the first set of investigations that took place in order to determine how narratives can be adapted to include fiction or nonfiction elements. The emphasis at this stage of the research was primarily on the thought process and the generation of ideas and this is documented with extracts of relevant notes and rough drawings from sketchbooks.

Chapter 5 addresses the role of narrative in nonfiction picturebooks with an overview of relevant published work, using my personal observations as well as critical and theoretical reviews. The analysis starts with a description of how the literature was chosen. It then provides a synopsis of how narrative is defined and considered in picturebooks and suggests how nonfiction narratives in the literature selection will be considered using an analytical diagrammatic approach. The rest of the chapter describes the observations made using this approach through a series of case studies that, for ease of reference, are categorised by subject areas.

Chapter 6 discusses the fourth experiment that took place. This was the largest practical component of the research, as it involved an investigation into, for and through the process of making a picturebook. It presents an overview of three artforms: folkloric art, botanical illustration and glow-in-the-dark printing.

Chapter 7 reflects on the outcomes of the research by providing an overview of the conclusions drawn on, for and through the practice of making a picturebook. Based on these findings, it makes suggestions for further research.

1.3 The Visual Thesis

The visual thesis was designed to complement the written thesis, as well as provide a documentation of the practical work undertaken. It provides an understanding of how the project developed practically and contains my own sketchbook notes, observation drawings, storyboards, composition experiments and photographs. Images of artwork by other practitioners are included only when the images help to clarify or support a theory. To differentiate between the figures included in this document and those in the visual thesis, the first have been numbered with Roman

numerals and are listed in this document and the latter with Arabic numerals and are listed at the start of the visual thesis. It is intended that the written and visual parts are studied alongside each other.

1.4 The Artefact

The third part of the research is an artefact representing the research outcomes in the form of a finished picturebook prototype. Although at the start of the research my aim was to produce a maquette, which according to the industry standards is a 32-page mock up for a picturebook using pencil drawings and text across all the pages apart from two completed spreads (Salisbury, 2004), the project took a different direction once I started investigating the use of glow-in-the-dark material. To be able to demonstrate how a structure different to the traditional 32-page picturebook lends itself to glow-in-the-dark material, the final artefact is a simulation of what such a picturebook would look like if it were published commercially.

1.5 Terminology

In the interest of clarity I will define how some of the more ambiguous picturebook terminology used in this thesis.

Picturebook: The word picturebook is used in the same way that the terms ‘picture book’ and ‘picture-book’ are used, in keeping with researches carried out to date in my department (Manolessou, 2012; Palmer, 2016).

Narrative Types: Narrative is defined as ‘A spoken or written account of connected events; a story’ (Oxford Dictionary, 2017). Throughout the thesis I make reference to four particular types of narratives. The first two, **fiction narrative** and **nonfiction narrative**, are self-explanatory; the first involves stories from the imagination and the latter stories with facts. The other two, visual narrative and verbal narratives, refer to the way in which a story is told. **Visual narratives** therefore use a sequence of pictures to tell part of or the complete story and **verbal narratives** use text to tell a story. The terms ‘visual narrative’ and ‘verbal narrative’ are borrowed from Nikolajeva and Scott (2006, p.1), who explain that narrative from text is communicated verbally and therefore a sequence of words that tell a story make up a verbal narrative.

Picturebook artist: Children's book illustrators sometimes struggle to define themselves through their work. Some artists like Beatrice Alemagna and Sarah McConnell refer to themselves as authorstrators (Salisbury, 2008), whilst others see themselves as authors, artists, illustrators, designers, to name a few. The making of a picturebook is an art form that attracts artists from many disciplines. Many follow careers in a primary discipline (illustration, design, fine art, printmaking) and see the making of picturebooks as another outlet of their principal practice. Others work entirely on children's picturebooks and see picturebook making as their practice. For the purpose of this research it was important to choose a term that would be inclusive of all techniques and disciplines. The term picturebook artist in this thesis is therefore used to define the people that, through their artistic practice, be it occasionally or in its entirety, create children's picturebooks.

Chapter 2: Research Context

2.1 A Brief History

Whilst illustrated stories date as far back as the Spanish cave wall paintings estimated to be between 30,000 and 60,000 years old (Whalley and Chester, 1988; Carney and Levin, 2002; Salisbury, 2004), the advent of the modern children's picturebook has a relatively short history. Academics generally agree that it starts with the nonfiction book *Orbis Sensualium Pictus* (1658; The Visible World in Pictures), created by John Amos Comenius to teach Latin in an entertaining way (Matulka, 2008; Nodelman, 1998; Silvey, 1995; Salisbury, 2007). Comenius was a pioneer in the development of modern education (Nutbrown and Clough, 2014; Flanagan, 2005) and many of his principles still resonate in teaching approaches today, so it is not surprising that this book, the first of its kind, and purposely made, was a great success. Records show it was translated and published in various European countries over the 200 years following its first publication; however it remained a book owned and enjoyed by those privileged to an education.

The first books largely available to all children, regardless of social status, were, in fact, the cheap and easily reproducible chapbooks. Despite offering the occasional, token educational value and not being intended for children, they quickly became popular with all age groups. It was John Newbery, a young printer in Reading, who noticed the lack of reading material specifically for children and subsequently published *A Pretty Little Pocket Book* in 1744. This became the first illustrated children's book of noted commercial and literary importance (Keifer, 2008; Lewis, 1996; Salisbury 2004; Whalley and Chester, 1988). Marketed with an accompanying toy in the shape of a ball or a pincushion, as appropriate to the gender of the child, these books offered a combination of enjoyment and education. The series followed the letters of the alphabet and was published for many years establishing illustrated children's books as a genre within publishing (Salisbury 2004; Whalley and Chester, 1988).

Inevitably children's picturebooks evolved alongside the industrialisation of the printing processes that made all books available to the masses (Bland, 1969; Barr 1986, Salisbury, 2004). As production of books developed so did illustration techniques and the breadth and quality of their content. By 1870 colour printing was well established, allowing the commercial production of printed material with bold

bright colours (Hofer, 2003; Salisbury, 2004; Silvey, 1995). A great number of children's books were produced with the aim to entertain the new urban household that could afford the time to read and play. Historians document this period as the beginning of the Golden Age of picturebooks (Bader, 1976; Salisbury, 2004). It was during this time that Randolph Caldecott, inspired by Walter Crane's decorative illustrations for children's books, created a series of illustrated books¹ that would define the picturebook, as we know it today. Caldecott's approach was to tell the story through a combination of words and images with the aim to amuse and entertain the reader. In contrast to children's books until then, where the illustrations mirrored the text, Caldecott's words and images depended on each other to tell the story (Bader, 1976; Salisbury, 2004).

The focus on entertainment through the book form continued over the next forty years. Novelty features such as panoramic views, movable parts and pop-ups were introduced to the picturebook as part of the visual and verbal narratives (Haining, 1979). Narratives using animal characterisation, humour and fantasy also became ways to make picturebooks more entertaining. It wasn't until paper shortage, a consequence of the First World War, dictated a more conservative approach to printing that the flamboyance of this Golden Age came to an end. This coincided with the 1921 Soviet movement, which was developing a new visual language to promote progressive thinking and industrial design. As education and learning became the focus of the countries of the Soviet bloc, information and inexpensive reproducibility was prioritised in the books produced (Bader, 1976; Garrouste, 2010). In the late 1930s Noel Carrington², greatly influenced by this movement and the Piere Castor titles published by Flammarion in France, was keen to introduce this idea to the west. His collaboration with Allen Lane of Penguin Books led to the creation of the 'new' boldly illustrated and economically produced *Puffin Penguin Books*. First published in December 1940 it was the first educational soft back series (Pearson, 2010; Salisbury, 2004; Silvey, 1995). It is at this point in time that the

¹The first two books '*The House that Jack built*' (1878) and '*The Diverting History of John Gilpin*' (1878) were printed by Edmund Evans. Evans who had also printed the same titles illustrated by Walter Crane in 1876, would also go on to print Kate Greenaway's book *Under the Window* in 1879.

²Noel Carrington was a British publisher who worked for the Oxford University Press and *Country Life* before collaborating with Allen Lane to create the first Puffin series under Lane's Penguin Books (Pearson, 2010).

differentiation between those books that would entertain (fiction) and those that would inform (nonfiction) was established.

The idea of focusing on books that would educate was also behind the great success of the Ladybird books. Ladybird³ had been an imprint of the publishers Wills and Hepworth from 1939; however, the subjects of the books were 'primarily based on fairy tales and stories about animals' (Zeegen, 2015 p. 32). It was not until 1953, after five years of persuading the directors, that Douglas Keen's idea to give Ladybird books an educational direction was approved and the first nonfiction Ladybird, *A book of Birds and Eggs* (1953), was published. On Keen's insistence, the Ladybird books that followed were designed with a focus on consistency in style combined with quality in visual and verbal content. They used the original Ladybird layout of alternating a page of text with a page of illustration. The aim was for the text to be accurate, clear and easy to read and the role of the illustrations to supplement and enrich the story. Under his guidance and passion, Ladybird books soon became a recognisable brand, synonymous with nonfiction (Powers, 2003; Zeegen, 2015). In tandem nonfiction became associated with this particular unfussy design style, further contributing to the fiction and nonfiction divide.

As the world overcame the difficulties of World War II and education became a priority, more and more literature for all ages was produced and imaginative stories became increasingly popular again. Picturebooks became the platform for more playful stories than one would expect to find in books like the educational Ladybird and Puffin Penguin books. Some narratives were pure fiction whilst others combined fact with fiction, seeking to convey nonfiction ideas rather than teach (Bader, 1976; Salisbury, 2007; Nikolajeva, 2008). Picturebooks also started covering a wider range of subjects. Many were inspired by the cultural differences identified through the movement of people and the travelling possibilities the advent of the jet engine brought. The diversity in society was reflected in the illustration techniques used as much as the content (Salisbury, 2015). One of the first artists to make travel picturebooks for children was Miroslav Sasek. His '*This is*' series (1959-1974), was created to give children a view of life in other parts of the world (Salisbury, 2015, p.

³ Ladybird books were printed on one sheet of paper, which was divided into 56 pages, sized 7 inches by 4⁵/₈ inches. The books were designed to have text on all left hand pages and images on all the right hand pages. Wills and Hepworth devised this arrangement to accommodate the war's paper rationing and cater for the increasing demand of children's books. Although it kept their business afloat during difficult times, they did not consider it a long term venture.

57). Sasek, who had emigrated to America from Czechoslovakia, used boldly coloured, graphic illustrations and humour to guide young readers through the history, sports, culture and everyday life of different places. Without the paper shortage restrictions, Sasek was able to spread his beautiful illustrations across larger pages. Panoramic views taking up the full width of the double-page spread give an understanding of place, whilst smaller illustrations of people, neighbourhoods or artefacts are arranged across white space as if inviting the reader to wander through streets and museums. Compared to the nonfiction books that were being produced till then, Sasek's books used less text, just enough to support the illustrations, allowing the reader to focus on and absorb the visual information presented.

Eric Carle, like Sasek, used a small amount of text but a more abstract illustration technique involving collages of coloured tissue paper. Carle's objective was and still is to make picturebooks that give children an understanding of nature using playful narratives. Christen (1996, p.46) describes Carle's books as 'toys to read and books to play with'. His most famous book *The Very Hungry Caterpillar* (1969) uses only a few words to explain how a caterpillar becomes a butterfly, as well as introducing the reader to counting and the days of the week. The narrative combines fact and fiction throughout both the text and the illustrations making the story both fun and educational. Carle's success and appeal has continued over the years⁴, proving that the combination of fiction and nonfiction for nonfiction concepts can be a successful recipe.

Another development that influenced the illustration of nonfiction books during this time was the technological development of photography. Faster shutter speeds and lighter camera bodies allowed photography that was less formal both as a documentary and artistic medium. *The First Picture Book* by Mary Steichen Martin (1930) was the first attempt at a nonfiction picturebook using only photography (Bader, 1976). It was designed to be an educational book for very young children and consisted of a series of photographs of everyday objects with no text to accompany them. Martin believed that as a young child was unable to read, the text would be superfluous and that its absence would stimulate more interesting conversation. However, the idea that a narrative did not have to be predetermined

⁴ His latest book *The Nonsense Show* (2015) introduces the surrealist art movement to children.

was before its time and the book was not well received (Bader, 1976). In contrast, the animal photographer Ylla pushed the boundaries of what a nonfiction narrative should be from a different approach. Ylla collaborated with children's book author Margaret Wise Brown, to create a series of nonfiction picturebooks about animals (Hirsch, 1983/84). These differed from other nonfiction photographic books of the time, in that the animal photographs were accompanied by a humanised story about them. The story gave the reader the opportunity to relate to the animals on both an emotional and cognitive level and it was Ylla's intention to educate the reader about an animal's ways as much as its form (Bader, 1976). In 1970 Tana Hoban revisited the concept of wordless nonfiction picturebook, through her first 'concept' book *Shapes and Things*. Its success led to Hoban creating a series of iconic picturebooks for children using no words, bold colours and black and white photography. They became established as successful educational tools, particularly for children with learning difficulties (Hirsch, 1983/84; Marcus, 2012) and are particularly interesting as they challenged the need of a verbal narrative in understanding a nonfiction concept.

New ideas involving nonfiction continued to emerge. Mitumasa Anno, a schoolteacher who had emigrated to America from Japan, made a number of wordless picturebooks to introduce children to words, letters, history and mathematical proofs. The illustrations of Anno's books are intricate and full of information arranged in such a way that the reader is always absorbing more than think they are. Anno has described his intention was to make books that *"teach without Teaching" – providing the conditions to allow children to learn for themselves'* (Anno, cited in Marcus, 2012 p.12). In *Anno's Mysterious Multiplying Jar* (1988) Anno explains the theory of factorials⁵. The first part of the book illustrates the concept in a way that even a very young child can make sense of it; the visual narrative facilitates understanding. The second half of the book provides the mathematical theory behind the illustrations using text to facilitate learning. The book brings into focus how understanding and learning are two linked yet different concepts that can be approached simultaneously through the picturebook using fiction and nonfiction.

⁵ The factorial sequence is a mathematical proof used in combinatorics and algebra to express the product of all positive integers less than or equal to *n*. It is expressed by placing the exclamation mark after the integer *n*.
For example $3!=3 \times 2 \times 1$.
Factorials are usually taught in secondary school.

Blurring of the lines between fiction and nonfiction is demonstrated through the extensive range of picturebooks created by the prolific Richard Scarry. His career as a picturebook maker started in the late 1940s and spanned six decades. In this time he produced over 300 titles selling millions of copies worldwide. He is best known for his brightly coloured, humanised animal characters, humorous plots and cut away illustrations. Scarry's work is distinctive in the context of narrative from a number of standpoints. From a visual perspective, as Manolessou (2012, p. 62) has highlighted, the humanized aspect of the characters does not include the animal's characteristics - birds take aeroplanes to fly instead of using their wings and foxes give advice to rabbits instead of hunting them - confirming that Scarry's books are about human life, not animal life. The illustrations are, therefore, fictitious with an aim to entertain the reader, as much as they are realistic with an aim to educate the reader. That the text is arranged as a story with a start, middle and ending, accompanied by explanatory captions, further highlights how Scarry intends for the reader to be both verbally entertained and informed. Nodelman (1998, p.132) highlights how in a similar vein the use of white background also has two purposes, as it both isolates the characters, allowing each to have its own story, and brings them together under one common plot, confirming that Scarry's books operate on two levels even through design. The layout further allows vast amounts of factual information, as well as amusing narratives, to be combined within the confines of a page. It was, perhaps, inspired by the advance of offset printing and computers, the next technological development to greatly affect children's nonfiction picturebooks.

The advent of desktop publishing in the 1980s enabled the use of new typefaces, brighter and bolder colours and soon information could easily be arranged digitally with the help of a grid and across a double page spread (Tufte, 1990; Nelson, 1990). This efficient way of structuring information and images led to what is now known as 'information packaging' and publishers seemed to appreciate the creative outputs of author and artist partnerships less. Under the direction of an editor, visual and verbal information was, as still is, collected and designed with a focus on information accuracy, organisation and readability. With scientists now contributing the majority of the writing and illustrators competing with photographers for accuracy, the resulting information books lacked the creative freedom that was encouraged in picturebooks. The aesthetics and design were subsequently influenced more by the trends of magazine publishing than those of picturebooks. Publishing houses such as Dorling Kindersley, Kingfisher and Dempsey and

Larousse became synonymous with the information children's book and the success of their production continues to this day.

The volume of picturebooks that was produced in the 20th century has led to a number of books with overviews of those picturebooks with a particular quality. Within these tomes, the role of narrative in nonfiction is discussed, although in a somewhat ad hoc manner. Bader, in *American Picturebooks from Noah's Arc to the Beast Within* (1976) devotes two chapters to "Information Books". In her observations she differentiates between those books with direct ways of explaining facts and those with indirect and sometimes more abstract ways of discussing nonfiction subjects. In her words, the latter are picturebooks that 'implicitly teach a concept: [where], the author and artist, not the nature of the subject, control the material' (p. 405). Her view is that the author and illustrator decide how explicit the scientific material will be. Kobrin's essay 'Information Books' in *Children's Books and their Creators, a glossary of children's literature from the 20th century*, (Silvey, 1995, p. 341) also discusses the role of narrative in nonfiction, although from the perspective of information accuracy and readability. However, at under three pages, the essay does not make reference to the many books that are representative of this view. It is surprising that a stronger emphasis is not made within these accounts, given that nonfiction picturebooks have been celebrated in terms of their content by picturebook awards such the Caldecott Medal for Nonfiction, the Bologna Ragazzi Award for Nonfiction, The NCTE Orbis Pictus Award and The Robert F. Sibert Informational Book Medal.

2.2 Nonfiction picturebooks in the 21st century

Today the advent of the Internet is making its own mark on how nonfiction picturebooks are written, illustrated, designed and marketed. Information is no longer limited to the constraints of the printed page. Until the early 2000s, the visual and verbal content of an information book was the most accurate way for children to access nonfiction information. Now the Internet instantaneously provides an enormous amount of information, including photographs, videos and educational tools designed specifically for children. Primary schools are designing curriculums based on the principles of lifelong learning, where skills such as reasoning, resourcefulness and reflectiveness are encouraged as much as knowledge and understanding (Fleming and Panizzon, 2010).

At the 2012 Bologna Children's Book Fair Tools of Change for Publishing Conference (TOC) a concern about the future of printed picturebooks was voiced in many presentations. The iPad that was launched by Apple Inc. in Spring 2010 was proving an enormous success with the younger generations, an audience eReaders had not been able to reach. Studies carried out during this time document an app explosion, with the most popular category for 2012 (47%) being educational apps for children (Judge, Floyd and Jeffs, 2015). The well-designed intuitive interface, large view touchscreen technology the iPad offered allowed multifunctionality (reading, gaming, videos, music and communication) and portability that no other device had been able to provide and it was clear that this would not be a passing fad. The consensus was that there should be room for both digital and printed material but concerns remained on how to proceed to ensure this. Publishers have since adapted and moved printed books in new directions instead of competing with the capabilities of the fast moving, digital technology. In doing so, they all found ways of creating fresh material to complement it (Eccleshare, 2015).

Publishing companies with larger turnovers broadened their offerings and embraced the digital platform by investing in the creation of digital editions and apps to accompany their printed material. Marketing campaigns that aim to bring the digital and physical form of the book together are now commonplace. Festivals, merchandise, signing events, online competitions, social media interaction and print enhancements (textiles, smells, reflective paper), special editions and consumable editions (stickers, tattoos, colouring) are combined appropriately as incentives for sales and designed to create brands from the books and their creators (Bookseller, 2013; Nielsen, 2016).

Smaller publishers saw this development as an opportunity to create something the digital platform is not able to offer: aesthetically stimulating physical books. With big pages, cut outs, movable parts, enhancements such as textures and colours the digital screen cannot replicate, the printed book market has seen a boom in beautifully made books. Within these, the nonfiction picturebook has led the way. By 2013 several imprints from established publishing houses appeared offering specialist children's books. Templar and Candlewick launched Big Picture Press to provide a series of large format books described as 'Highly illustrated books [that are] visually intelligent, surprising, and accessible to readers of all ages, abilities,

and nationalities' (Big Picture Press, 2017). Flying Eye Books, an imprint of the publishing house Nobrow⁶, was established with the aim to "retain [the same] attention to detail in design and excellence in illustrated content [as Nobrow,] but with a focus on the craft of children's storytelling and non-fiction" (Nobrow Press, 2017). Thames and Hudson increased its children's book offering from 1-2 books per year to 10 in 2012, announcing plans to double this output in December 2014 (The Bookseller, 2014). As the market has continued to perform well, the larger publishing houses have also started branching out showing an interest in books that are both beautiful and educational. Tundra, acquired by Penguin Random House in 2012, was, at the time of writing, undergoing a brand facelift to be launched as an imprint that publishes books 'known for their literary merit and artistic integrity' (Tundra Books, 2017).

According to recent data from Nielsen Market, since I began my research in 2011, children's nonfiction book sales have increased by over 25%, compared to a 15% increase in pre-school and picturebook sales and a 20% increase on children's books overall. The documented healthy increase in sales suggests a demand for nonfiction picturebooks; however, we must take into consideration the ambiguous grouping of narrative nonfiction books and activity nonfiction books under the 'nonfiction book' term, particularly as a large proportion of this increase is driven by activity books that provide instruction material for gaming apps such as Minecraft and Pokemon Go (O'Brien, 2017; Rosen, 2017). McLean at the Children's Institute highlights that the number of active nonfiction books that help children learn how to make and do things published from 2014 to 2015 increased by 295% (Rosen, 2017). This is not to dispute the growing appeal of nonfiction but rather to highlight a need for clearer definition. During a panel discussion in 2014 Leonard S. Marcus remarked how nonfiction "really appeals to something deep in a lot of people by speaking to the question 'is it true?' rather than to the question that permeates fiction, 'what if?'" (cited in Burnett, 2014). Grouping narrative nonfiction with active nonfiction therefore seems even more unfitting than grouping nonfiction picturebooks with fiction books.

⁶ Nobrow was established in 2008 as a specialist publisher by illustrators Sam Arthur and Alex Spiro, the imprint Flying Eye Books was established in early 2013.

Within this vague categorisation of nonfiction picturebooks there is a subset of nonfiction picturebooks, as Salisbury (2007, p.141) explains, that aim to do more than illustrate nonfiction facts.

‘Often, narrative threads and characters are woven into an idea to capture and hold the attention of a young audience, an advanced version perhaps of Bishop Comenius’s notion 350 years ago that pictures could lighten the tedium of learning Latin. Sometimes such devices can appear contrived or ‘gimmicky’ but often they are genuinely original and effective in engaging children in subjects in which they would not otherwise be consciously interested.’

It is this particular subset of nonfiction picturebooks that this thesis explores during a time of change in the culture of illustration for nonfiction picturebooks. The perspective of the picturebook maker, both as a designer and illustrator in nonfiction, has not, to my knowledge, been previously considered in any context.

2.3 Academic Context

Children’s picturebooks, like other forms of art, have traditionally been analysed by academics in a retrospective manner. Such investigations have emerged predominantly from two different disciplines. On the one hand, branches of the humanities, such as philosophy, literature, history, have been concerned with the literary and artistic components of picturebooks and on the other hand, branches of the social sciences, such as education and psychology have been concerned with the value of the picturebook as a designed object with a particular role: to inform, to entertain and to educate. Both perspectives have contributed to our understanding of how picturebooks work and how readers relate to them.

Picturebook theory

At the core of all picturebook theory lies the most comprehensive definition of the picturebook as provided by Barbara Bader (1976):

A picture book is text, illustrations, total design; an item of manufacture and a commercial product; a social, cultural, historical document; and foremost, an experience for a child.

As an art form, it hinges on the interdependence of pictures and words, on the simultaneous display of two facing pages, and on the drama of turning the page. On its own terms its possibilities are limitless.

The picturebook, as such, offers a multitude of opportunities for examination. The analysis of how a narrative, (defined as the ‘spoken or written account of connected events; a story’, Oxford Dictionary, 2005, p.1169) is presented to children using a

combination of visual and verbal means has been explored by literary experts to define typologies and provide a better understanding of the picturebook form (Nikolajeva and Scott, 2006; Nodelman, 1988; Salisbury and Styles, 2012). In 2001, Nikolajeva and Scott compiled a comprehensive classification of picturebooks combining a number of ideas that had been circulating until then (2006, pg. 12). With the exception of Nodelman, who bases his theories according to categories relative to the content of picturebooks, theories on narratives are based on the relationship between words and image and how their quantity, purpose or interdependency is reflected within the constraints of the picturebook form. Whilst this system of classification covers many narrative interactions it fails to identify how fiction and nonfiction relate within these parameters. The picturebooks subsequently analysed in academic texts are largely within the area of fiction. A closer inspection shows that the analysis of picturebooks with nonfiction content is limited to those without a verbal and visual narrative interdependency. As such, they are described as either 'nonfiction texts' (Smith, 2003, p.116) or 'exhibit books' (Nikolajeva and Scott, 2006, p.12). Nonfiction picturebook analysis has therefore focused on readability, information accuracy, information design, educational value and information retention (Kress and van Leeuwen, 1996; Nodelman, 1988; Smith, 2003). Nodelman (1988, p.18) differentiates between the purpose of 'picture books' and 'information books':

Those books that have practical purposes, such as alphabet books and word books require their viewers to focus on the names of the objects their pictures convey, picture books that tell stories force viewers to search the pictures for information that might add to or change the meaning of the accompanying text.

The need for a particular category of nonfiction books with a creative dimension that sets them apart from information books is highlighted by Yiannicopoulou (2003, p.29); yet her suggestions: "*creative nonfiction, educational fiction, fiction-nonfiction, nonfiction fiction, (non)fiction*" are inconclusive. It is understandable why. A creative nonfiction book suggests that other nonfiction books might not be creative. An educational fiction book suggests that all other fiction books might not be educational. Neither is true. Terms such as nonfiction fiction and (non)fiction can be perceived as contradictory. In a recent interview William Grill (Daniel, 2015), author and illustrator of two award winning nonfiction picturebooks, both with a strong storyline, suggested the description '*narrative nonfiction*' for his own books. This is more encompassing but suggestive of only a nonfiction text and does not represent picturebooks where the relationship between fiction and nonfiction is an important

component. Booksellers, as discussed in the previous section, have used the term 'narrative nonfiction' in recent years to differentiate between nonfiction books to read and nonfiction books that involve activities; yet they do not provide an alternative definition for information books that don't have a narrative, so we are left to question where exactly the boundaries lie. In answering the question of the role of narrative in nonfiction books, it will become clearer, in the context of picturebook theory, what terms best define the different categories of nonfiction books.

Learning theories

Learning theories have evolved as a result of numerous behavioural and neurological studies carried out by psychologists with the aim to provide effective education techniques (Pritchard, 2014). Research to test such theories often concludes with suggestions for the design of educational material with little consideration for the artistic process or literary value. Equally, literature already published is often selected to conduct experiments with, without using substantial criteria to assess its aesthetic value (Yianicopoulou, 2003). Where the focus is on learning from illustrations, the illustrations used in the experiments are often far removed from those found in children's picturebooks (Armitage and Allen, 2015; Yianicopoulou, 2003). Whilst their perspectives are useful and offer new ideas and possibilities, their analysis, however logical, can be unrealistic or skewed. On the one hand, such research can identify very specific patterns in learning; on the other hand, without a full understanding of the capabilities of the picturebook and the process involved in making one, these findings can lack context for the purpose of this research. The following sections therefore provide an overview of findings specific to the context of the role of narrative in picturebooks, in order to contextualise the research from an educational perspective.

Recent studies investigating the effectiveness of various learning styles in teaching classes has proven inconclusive despite providing a plethora of useful approaches (Massa and Meyer, 2006; Pashler et al., 2008). It is, nonetheless, acknowledged that children do have preferred ways of learning, even though these differ from subject to subject, and change as a child's communication skills and experience in learning changes with maturity (Spoon and Shell, 1988). For the purpose of identifying an all-encompassing approach to suit children, a combination of visual, auditory and kinaesthetic (V-A-K) activities is suggested as the approach that will yield the largest probability of learning success. The rationale is based on the fact that children will learn from all three categories even if not at the same level.

Therefore, using techniques that cater for all three possible ways to learn will provide something for everyone (Pritchard, 2014). A second valuable all-encompassing approach is based on Vygotsky and Piaget's⁷ only common belief that learning improves through activities that are fun and exciting. (Pritchard, 2014; Thorne, 2007; Hughes, 2009).

Ludistics, or play theory, stemming from these beliefs, has been at the core of studies that confirm the necessity and importance of play in human development and communication (Huizinga, 2000). Teaching methods today use a combination of these principles to improve learning and problem solving. Suggestions include reading nursery rhymes with numbers such as '*Ten green Bottles*' and "*There were ten in the Bed*" to improve counting or reading fairy tales with numbers and sizes, such as Goldilocks and the Three Bears and The Wolf and the Seven Kids, to improve spatial understanding and counting (Hughes, 2008). For designers and illustrators that often use established narratives (folktales, fairy tales, nursery rhymes) as the basis for their illustrations and picturebooks, this highlights an opportunity to consider a nonfiction element in an otherwise fictional story. It brings into question how an artist would approach an illustration when a teaching objective is required and how this might affect the outcome.

Smith (2003) suggests the use of flaps as a kinaesthetic approach to encourage readers to engage with nonfiction texts. This is not a new concept; novelty books containing: discs, lift up the flap and multiple layers were first produced in the thirteenth century for the scholarly study of nonfiction subjects such as anatomy, astrology and astronomy (Boyce, 2008; Lewis, 1996). More recently nonfiction picturebooks have extended this notion to include the entire physical structure of the book by creating flaps in the form of fold out pages. In Salvatore Rubbino's *A Walk in London* (2011) two consecutive pages fold out to create a panorama of the Thames emphasising the scale and importance of the great river. Eric Puybaret uses the same technique to emphasise the depth of the sea in *Manfish A Story of Jacques Cousteau* (2008). In contrast to the smaller flaps traditionally found in information picturebooks these bigger spreads work to reinforce the message of the story and become part of the narrative. They enhance the story and stimulate the reader to absorb more information.

⁷ Vygotsky and Piaget were the two most influential psychologists of the twentieth century in the area of cognitive development. They supported two opposing theories with only one common belief that fun and activities were important in learning.

Based on the theory that learning is improved by appropriate illustrations that evoke strong cognitive and emotional stimuli (Mayer and Gallini, 1990; Harp and Mayer, 1997; Carney and Levin, 2002), Massey (2015) supports that learning through the picturebook format improves learning for adult learners as well as children and recommends their use be extended to secondary education. Her motivations stem from a number of researches carried out that show considerable improvement in information retention using picturebooks alongside traditional non-illustrative texts. Other similar experiments have evolved as teachers have looked at ways to improve their teaching. Powell and Murray (2012, p.50) decided to use stories to improve understanding in their online classes after they noticed that not having the immediate face to face feedback from the classroom meant they could not judge what material they needed to explain or emphasise further. They document that using relevant anecdotal and humorous examples, alongside their explanations, to highlight principles, made the text more memorable and resulted in better exam performance.

From another perspective, however, Harp and Mayer (1997) caution that enhancements must be applied with care. Research on books with 'seductive texts' or 'seductive illustrations' that were misplaced proved to distract readers from learning. Whilst I agree with Harp and Meyer that educational texts must be supported with illustrations that are more than gimmicks, I also agree with Kress and van Leeuwen (2001) who point out that today we are seeing such rapid changes in semiotics, due to the increasing range of multimodal communications, that children are very capable of understanding the different visual languages and therefore become more discerning readers. In a study to establish whether primary school children had a preference for fiction or nonfiction books, the findings showed an equal preference for both categories, 'provided that [the children were] given access to quality trade books of both types. (Kletzien & Szabo, 1998; Mantzicopoulos and Patrick, 2011).

2.4 The Practitioner's Voice

Academic research carried out by picturebook artists has started emerging recently, with the majority awarded by Anglia Ruskin University. It is, therefore, a relatively new concept but with increasing appeal. Since 2010, six PhDs have been awarded and there are currently seven more researchers, myself included, enrolled on the research programme at the Centre for Children's Book Studies, all conducting

practice-based investigations. Subjects that have been and are being investigated include animal characterisation in picturebooks, picturebooks for understanding meditation, artists' books for children, sequential narratives in picturebooks, postmodernist picturebooks, humour in picturebooks, printmaking in children's books and traditional Chinese illustration for picturebooks. It is fitting, therefore, that a project that contributes to the better understanding of nonfiction picturebooks is also undertaken.

All of the completed research projects to date have been invaluable in my understanding of both the practice-based research approach and the picturebook illustration practice. Manolessou (2012) provides a new understanding of how a character's features evolve in tandem with their identity and personality, both consciously and intuitively. This was particularly useful when considering approaches for my experiments. Palmer's (2016) specific experiments involving grids, formats and reading out loud provide an understanding of the constraints the picturebooks format places on the artist compared to comics and the implication this has on the artwork derived from each approach. Little's (2015) analysis of shape and space artists' books for children extends the understanding of Bang's principles and confirms that artists' books can be as powerful as the commercial picturebook. These outcomes are an affirmation that practiced-based research has been able to make a real time contribution to our knowledge from a perspective that literature, psychology and education scholars have not been able to contribute.

Over the years some accomplished and award-winning picturebook makers have published retrospective, biographical accounts of their work, sharing their art, thinking and inspiration. Usually, they are produced alongside an exhibition or in celebration of a milestone in achievements. These accounts are valuable in highlighting sources of inspiration for both the narratives and illustrations of their picturebooks, as well as descriptions of how their technique developed. Within these books, there is often some reference to nonfiction illustrations or stories, highlighting the difference between illustrating fiction and nonfiction concepts and indicating that a critical approach to the role of narrative in nonfiction picturebooks is important.

In the eloquent account of his life, art and books, aptly titled *Playing the Shape Game* (2011), Anthony Browne's belief that learning through playing is an important element in a child's education is clear from start to finish. The book in its entirety addresses every aspect of the illustrator's life, including ways of working and

thinking. In his chapter on how he transformed well-known paintings and created the picturebooks *Willy the Dreamer* (1997) and *Willy's Pictures* (2000) to '[present] great art to children in a way that [he] hoped would make it more accessible to them' (2011, p.146), Browne acknowledges not only his intentions but that this was a defining moment in his career. The appeal of finding ways to make the scientific exciting is echoed in *Tomie dePaola: His Art and His Stories* (Elleman, 1999) in a chapter dedicated to, and accordingly titled, 'Informational Books'. Like Browne, dePaola has a clear intention when making these books and that is to entertain and educate. This same sentiment is again highlighted in *The Art of Eric Carle* (1996), where Carle shares comprehensive instructions to his technique and confirms that his intentions are to 'bridge the gap between the home and school'.

With such little research carried out by artists in academia, educators as well as academics and art students rely on these accounts to understand more about the illustration of picturebooks as well as the practice from the perspective of the artists. The thirst for understanding more about the creation of picturebooks has at times come from the artist wanting to understand more about their own way of working. Molly Bang's *Picture This* (1991) provides a reflective analysis of the structure of a picture and discusses how emotionally powerful it can be, depending on the position, size and colour of the characters. In a similar vein Suzy Lee explores the dynamics of the book structure in her work and discusses how she developed the trilogy Mirror, Wave, Shadow in her book *La Trilogia del Limite* (2012). Lee's analytical approach provides an understanding of the questions she asked herself and the connections she made in answering them in the process of making a picturebook. The progress of the story, as well as the design and illustration, is documented in Lee's notes confirming the research is embedded in the practice.

The demand for a more in-depth understanding of the illustration and design process is reiterated in the increasing number of conferences where academics, practitioners and industry experts gather to discuss design and illustration as much as research. Well-attended fairs such as the Bologna Children's Book Fair and the London Book Fair provide platforms for presentations by prominent picturebook artists followed by discussions on their work and practice and smaller conferences such as Confia are able to focus on more specific aspects of illustration and animation, whilst symposiums, such as the biannual Research Through Design (RTD) conference, focus on the research and design methods.

Social media platforms such as Facebook, Instagram⁸ and Twitter have evolved from the more static website and blog setups and made the voice of the practicing artist heard on an international⁹ level. Established and emerging artists use such platforms to post information on how their work is progressing using hashtags (#) to categorise their artform, techniques and tools, as well as to position themselves in the marketplace. The complete process, starting from sources of inspiration, sketchbook drawings, images and videograms of work in progress and ending with the completed artwork at its final destination, can often be followed. With an audience of millions the advantages cannot be ignored. Artists can network to raise their profile, learn from others, form collaborations, secure commissions and also develop their practice. It is clear from the high numbers of interactions, in the form of comments and replies, that there is a general desire within the artist community to understand more about the process. In a recent interview Owen Davey (2017) makes repeated reference to Instagram as the social media platform he uses and how this has been important in shaping his career as a children's picturebook maker. Illustrator Marc Conlan, like many others, posts time-lapse video of his digital work that show the complexity of the process (Instagram: @marlconlan). They are acknowledged with appreciation and thanks, further confirming that understanding the process matters to artists.

2.5 Personal Context

Practice-based research by definition requires an articulation of the practitioner's personal and professional background to indicate the unique viewpoint from which the research is taking place. I will end this chapter by discussing how my experiences, as much as my motivations, qualify me to approach this particular research question from a practice-based perspective.

Background – Upbringing

I was born in my home country Greece but I was brought up in Jeddah, Saudi Arabia, where I attended a British International school. Books in my early years were hard to come by, due to a general lack of western commodities and strict customs censorship, so we relied on the school library and the little my parents could bring in our luggage after holidays. As television programmes were also very

⁸ Instagram is a mobile application, created in 2010, that allows its users to share photographs and videos using a simple grid system and therefore is particularly popular with artists.

⁹ With the exception of countries that hold an Internet censorship policy.

limited, dubbed in Arabic and heavily censored, the books that were available were also a staple for entertainment and as such, each book was read over and over again. My first memories of books come from learning to read using the Key Words Ladybird Series. The pictures from these illustrated stories about life and culture in the UK made a lasting impression on me, to the extent that, when I first visited England at the age of 15, I remember a great number of things feeling distinctly familiar. As the international community in Jeddah grew, so did access and breadth of literature available, so despite the difficulties, I was eventually exposed to an extensive range of literature from various cultures.

Pattern

Artistically my exposure and experience was also heavily influenced by my unconventional upbringing. Arabic culture is steeped in the most intricate patterns. Known as Arabesque, (similar to Moresque), these motifs adorn every aspect of life. The careful observation of the lines, symmetry and repetition of these patterns provided an endless source of amusement for me. As I liked to draw, trying to create similar patterns was always a joyful challenge. These influences I believe are reflected in my artwork to this day and are very much in line with Arnheim's (1969, cited in Verstegen, 2005) ideas on individual artistic development.

Learning

To ensure that I would become equally fluent in my mother language, Greek, I followed the Greek school curriculum through private lessons at home throughout primary school. I was therefore exposed to two types of teaching. My school focused on learning through creativity, projects and experience whilst my lessons at home were very didactic and focused on accuracy through discipline and practice. I believe both had a positive influence on me; however, I had a strong preference for the learning environment at school, where in contrast to my studies at home, it never felt like work.

First Studies and Work Experience

Although art was always the subject I most enjoyed and excelled at, I chose to follow a science direction after completing my GCSEs. I studied Chemistry and Management Science for my first university degree, completing it in 1997 to face a rather disappointing range of job opportunities. To further broaden my skills and options I continued my studies with a Masters in Environmental Studies. The course was interdisciplinary, covering environmental issues from every perspective and included modules in sciences, sociology, statistics, law, finance and politics. Being

exposed to this wide range of subjects was instrumental in helping me develop a range of skills and knowledge I could use outside the laboratory. Enthused with the new prospects before me, I produced an illustrated thesis on the Ethics of Sponsorship in Environmental NGOs for my final project, which earned me the position of Editorial Assistant for a start-up magazine. I subsequently spent the following ten years working in various marketing roles, the last of which was in the oil and gas industry. Regardless of the industry, the roles within marketing presented me with many creative opportunities that gave me solid experience of the print process and graphic design. My employers were happy to support my creativity and I was given the tools and time to develop my skills in design, illustration and photography, thus becoming proficient in the use of software such as Photoshop, Illustrator, QuarkXpress and Dreamweaver. Therefore, despite my artistically constrained background, my commercial experience underpinned my skills in creative thinking and design, even if in an unconventional way.

Art Studies

In 2008 following a short break from work to raise my newborn daughter, I decided to follow a career in graphic design. I applied to study for a BA in Graphic Design; however, my portfolio was considered accomplished enough to earn me a place on an MA in Art, Design and the Book. Here I developed a new way of thinking that allowed me to make my work more personal. It also gave me the opportunity to explore printmaking techniques and bookbinding. For my final project I investigated the theory of language acquisition. Whilst initially this focused on storytelling to support learning, it soon became apparent that the illustrations were equally important in engaging and sustaining interest in the text. As my work developed I looked for ways by which I could incorporate interactivity into the narrative. The outcome was a game that provides various settings and prompts as incentives to encourage conversations and storytelling from the children (**Figure 1**).

My Practice

Although my training has not been artistic, it has allowed me to develop analytical research skills, which although rooted in science, are very much practice-based. Chemistry is a subject taught theoretically and practically in equal measures. Practical experiments at university were designed to teach through planning, practical experimentation, observing and recording. Repetition of actions to develop accuracy skills, learning through trial and error, the interpretation of results using references to theory are all part of the laboratory research that took place daily in four hour sessions. This gave me solid foundations in recording information in a

disciplined manner. Since these long afternoons of lab work, I have made frequent use of these skills and rely on them for my creative practice today.

I currently work as a freelance graphic designer and illustrator, mainly on branding projects for small to medium size businesses. I base the success of my work on the principle that a brand is an illustration of how a business has emerged, what it does and where it aims to go to, very much like telling a story. Artistically it involves a combination of processes depending on the client's brief. All commissioned projects start with some level of research that gives me an understanding of the perspective of the client, as well as the aim of their specific project. This enables me to intuitively make creative suggestions in the form of sketches from the outset. Feedback from this helps to establish the visual language that is most appropriate for the project. Once this is agreed, practical suggestions regarding production techniques within the given budget are investigated. Final illustrations and designs are usually created digitally using a combination of Adobe Photoshop, Illustrator and InDesign.

My personal artwork has developed alongside my freelance work following the completion of my MA. Although I use various techniques including ink drawings, printmaking using rubber stamps or lino, acrylics and digital, my work follows a linear design regardless of the medium. For this research I experimented with various techniques, choosing to apply them depending on what I intuitively thought was the most appropriate. I made this conscious decision to not limit myself to one technique or style on the basis that the aspect of my practice that I believed mattered most at the beginning of the research was not defined by one visual language but by the understanding that stories can be told in a multitude of ways and for a multitude of reasons. In this I found my research was more closely aligned with a designer's approach.

2.6 The gap in knowledge

This chapter has explored nonfiction picturebooks and the relevance of narrative in this category of books from a historic, cultural and academic perspective. We conclude that despite the artistic, socioeconomic and educational importance of the nonfiction picturebook, the role of narrative in nonfiction has never been researched using a practice-based approach. A research project on this subject, using a practice-based approach, will provide an understanding for artists interested in making picturebooks, especially those interested in picturebooks with nonfiction content.

Chapter 3: Theoretical Framework and Methodology

The concept of practice-based research in the arts has been an area of debate since the 1960s (Sullivan, 2006). Questions concerning the role of research in an artist's daily practice, combined with the intangible quantification of tacit knowledge, have been at the core of the academic discourse that has followed. Since Frayling's paper in 1993, which confronted the controversy of art as research by concluding that 'research can take place into, through and for art and design' (1993, p.5), there has been a large increase in the number of practice-based research degrees undertaken (Yee, 2010). However, despite this documented progress, design research methods and theoretical frameworks continue to be questioned and the search for a more prescriptive model that combines the flexibility required by creative practice to accompany the more tangible requirements of the epistemologically rooted academic enquiry also continues. The consensus, to date is that due to the nature of creative practice it is unlikely that one size will ever fit all (Eaves, 2014; Yee, 2010; Scrivener, 2004; Schön, 1983; Frayling, 1993). For a genuine contribution to knowledge, it is suggested that each project must be conducted within a theoretical framework tailored to place the researcher at the core of their research, allowing them to discuss, document and explore their project with as little creative hindrance as possible (Eaves, 2014; Yee, 2010; Archer, 1999).

3.1 Applying Fallman's Research Triangle to Picturebook Design and Illustration

The research framework I identified as the most appropriate for my research is based on Frayling's (1993) definition of what research projects in art and design are, which places emphasis on the outcome (as discussed earlier) and Fallman's (2008) triangular model for interaction design research, which is based on research activity.

Doctoral studies in the Centre for Children's Book Studies, at Anglia Ruskin, start from the premise that research in children's book illustration requires an understanding of both practice and theory. They follow from the successful MA degree in Children's Book Illustration, which combines studio work with theory, with the aim to contribute to the field of children's book illustration through creative practical work and theoretical enquiry. As such, they are described as practice-based and according to Frayling fall into the project category of 'research through

art and design' (1993). In the case of my research, I was able to identify with the research aims of all of Frayling's categories; however, as the research progressed it became apparent that Frayling's categories did not provide a sufficient framework or analysis for me to form a concrete basis for my research.

Fallman's paper (2008) on a research model specifically developed for research in interaction design, by the Umeå Institute of Design in Sweden, presented a more encompassing research approach that echoed Frayling's ideas but suggested an overlap in the activities for research that a practice-based PhD would involve. The model is based on an understanding that at the core of interaction design is the role of user experience (UX). The term UX is used to describe the

'overall experience of a person using a product such as a website or computer application, especially in terms of how easy or pleasing it is to use' (Oxford Dictionary, 2017).

From Bader's definition (1976, p.15) an appropriation of UX for picturebooks could then be defined as the overall experience of a person using a picturebook, especially in terms of how easy or pleasing it is to use. The common ground between interaction design for UX and design for picturebook UX is further confirmed in Fallman's explanation that UX involves

"understanding physical, sensual, cognitive, emotional, and aesthetical issues; the relationship between form, function, and content; as well as fuzzy concepts such as fun and playability" (2008, p.4).

I concluded that a model that addresses so many of the elements that define a picturebook could be adapted to suit a research project in picturebook design and illustration. In Chapter 2, my overview of nonfiction picturebooks had already suggested that the experience of the reader improved with the presence of narrative, so user experience was an area of particular interest.

Fallman (2008) refers to three main components of activity within this model. These are: Design Practice, Design Exploration and Design Studies. Design practice is defined by the activities that designers carry out as practicing designers outside of academia, placing the researcher in the position of the practitioner and not the observer and identifying that the main difference is 'that [practitioners] have an explicit design research question in mind or a clear intention of forming such a question from their activities' (2008, p.6). Design exploration is subsequently defined by the questions that the researcher sets in order to explore new possibilities. The difference between carrying this out for research, instead of in response to a client's

brief is a personal expression of possibilities and ideals, where tacit knowledge, established theories and reflective practice are identified and examined. Lastly, design studies are defined as the traditional academic research that combines theories in history, philosophy and methodologies (Fallman, 2008, p.9). These activities resonated with the investigation I wanted to conduct, as they were broad and encompassing.

Given that the model is activity based, it allows movement between these three areas of exploration according to the perspective investigated and, therefore, different relationships between different parameters can be considered without limiting the research to one specific mode of study. The movements are described as 'loops', 'trajectories' and 'dimensions'. For the open-ended approach of reflective research method I envisioned for the methodology, I was particularly interested in a framework that would allow 'loops' within it. Schön's (1983) work on reflective practice is embodied in the model as are Nelson and Stolterman's (2012) understandings of design. Furthermore, the model also allows for a consideration of the relationships that may form between two particular types of activity, as well as the real-life implication these may have outside of the research boundaries. The first are referred to as trajectories and the latter as dimensions. The model, which is known as Fallman's Research Triangle is often appropriated according to a research's needs. (Yee, 2010; Pullin, 2014). For the purpose of my research question, I, therefore, adapted the model to include Frayling's definitions and listed the parameters I believed would allow me to conduct the research from multiple viewpoints, as shown in **Figure i**. As the research progressed, I was able to identify with the trajectories and the dimensions illustrated and I was able to make conscious decisions on which direction I wanted the research to go.

One such decision was to focus more on the trajectories within the triangle and less on the dimensions. This came at a point when I decided to apply a glow-in-the-dark layer to the artwork. Due to the technical challenges this presented, I felt that the project was more personal than commercial and that my work would benefit from my understanding of the relationship between study, exploration and practice rather than how these would work in the publishing market. MacKenzie Smith (Salisbury and Styles, 2012, p.174) highlights the importance of creative expression without direction from market trends. This freedom allowed me to investigate the material from a new perspective and has led to a new understanding of how glow material can be used in nonfiction picturebooks.

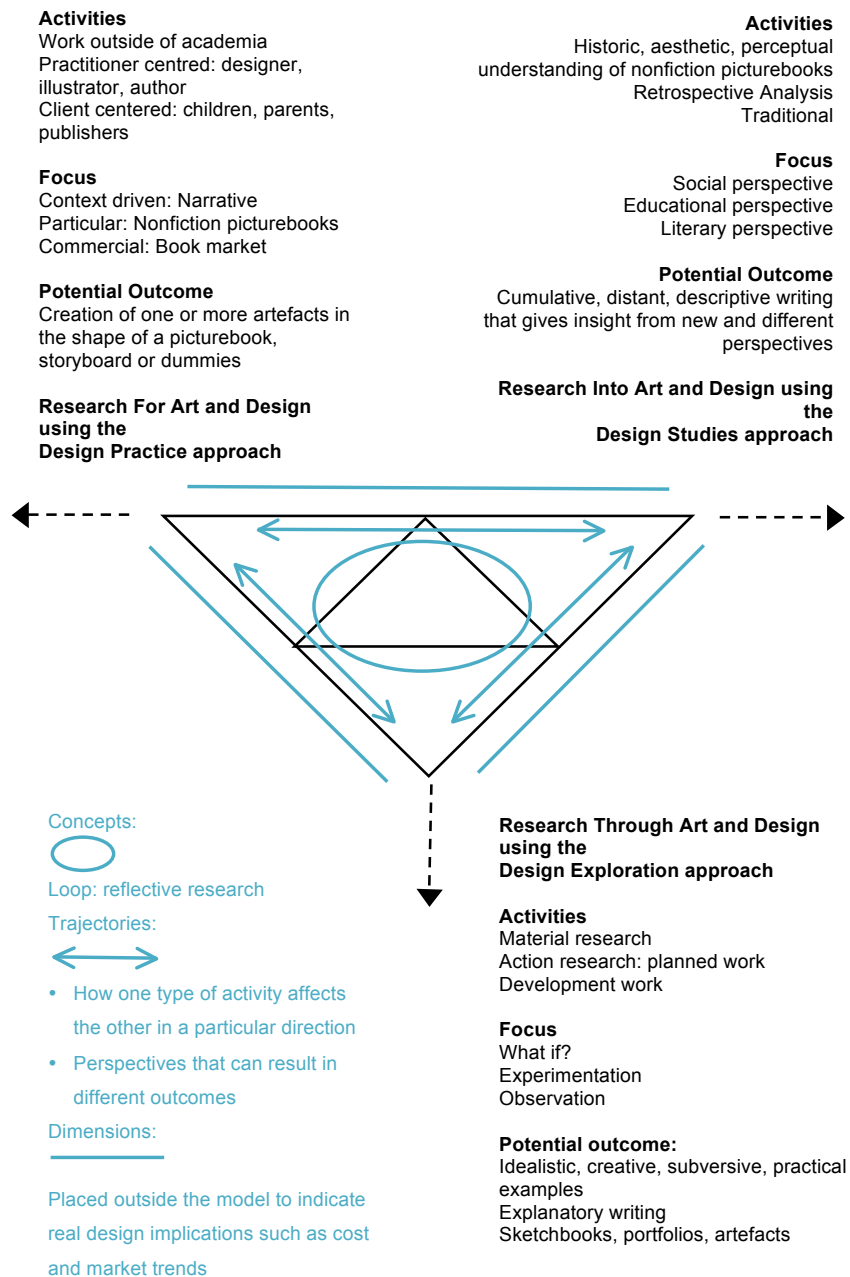


Figure i: Adaptation of the Interaction Design Model as presented by Fallman (2008, p.14).

3.2 A starting point: Tacit knowledge and reflective practice

At the centre of Fallman's model (**Figure i**) is an understanding that much of research is based on understanding tacit knowledge. To illustrate tacit knowledge in context, I refer to a discussion, where the renowned picturebook artist Eric Carle describes his approach in illustrating a porcupine:

"I didn't know what would happen. I just had an idea it was going to work and I was right in my assessment. Other times it doesn't work. I'll have the same sort of impulse – that I should do this, this and this and then this, this and this and this is going to happen. Only it doesn't happen at all. That's the chance of it." (Marcus, 2012, p.74)

Artists often relate to this instinctive knowing that, sometimes, something just works and sometimes, it just doesn't. It is often referred to as experience or creative intuition (Rand, 1993). Making this intuitive knowing tangible is the personal understanding Polanyi (1966) refers to as tacit knowledge that when articulated and understood differentiates practice from practice based research.

To reach this place of understanding, Schön (1983) advocates a reflective approach, through which the artist becomes the artist-researcher, incorporating in his or her practice a method whereby questions are continuously generated on the subject being explored. This approach allows intuitive decisions to be noted and analysed so that each new activity is based on the outcome and understanding of a previous activity. To allow continuity in creative thinking, Schön (1983) prescribes two positions from where this understanding can happen -he calls them reflection-in-action and reflection-on-action. The former refers to the thinking process that occurs during the creative process, where emotional evaluation, technique development and practice-related questions are generated and answered. The latter refers to the thinking that takes place retrospectively, when the artist is not in the process of making and involves critical thinking that relates the practice to theory and subsequently generates a set of questions and answers from a new perspective (Schön, 1983).

Practice-based research in art may not necessarily have a set of predetermined questions. Objectives signify a predetermined intention, which is a controversial position in art (Manolessou, 2012, p.39). However, it is also suggested that for those working across both the discipline of art and the discipline of design, intention is considered less of a controversy and more of a requirement (Nodelman; 1998; Drucker, 2004). Since my practice is rooted in graphic design, I felt my way of

working was more aligned with the design discipline and, therefore, my research would be best approached with a set of guiding objectives to support the research aim.

3.3. My approach - Plans and Actions

For the majority of my research, as I was working on various commercial projects alongside, I approached my research activities as I would a proposal from a client. The question at hand was the role of narrative in nonfiction picturebooks so I set out to make a nonfiction picturebook with a narrative. Because I did not have a predetermined subject or story I wanted to use, I identified four approaches from which I could create a nonfiction picturebook:

1. By adding nonfiction information to an established fiction story.
2. By adding fiction information to an established nonfiction story.
3. By creating a fiction story to present a nonfiction concept or nonfiction facts.
4. By creating a nonfiction story to accompany a nonfiction concept or nonfiction facts.

In parallel I conducted a more observational study of picturebooks, through reading, attending lectures and visiting libraries and book fairs. Four storyboards (discussed in Chapter 4) evolved; yet regardless of the approach, I realised that I always ended up with the same set of difficulties. Normally, at this point, I would look to my client for some clarification. Usually, a better understanding of a product or an opinion on a new idea helps narrow ideas down to a more definitive line of action (Potter, 2002, p.103). In the case of making a picturebook, the role of the client would be fulfilled by the publisher or editor. In the absence of these external influences, I was pushed to critically evaluate both my practice and the theories already established. The conclusions I drew led me to a new understanding; a theory that took the shape of a diagrammatic representation, as discussed in Chapter 5. The final plan of action took shape from a new position of understanding that I attribute to the findings of Chapter 5. Using these findings I approached the fourth idea for a story from a new perspective. The role of narrative in this approach had transcended the conventional story, which is based on verbal sequences. The artwork that followed studied how a printing material, such as glow-in-the-dark (GITD), can be used in place of a verbal narrative. The completion of this piece of work was a natural end to the research, both because a new artefact had been produced and because the work from the start of the project collectively provided conclusive answers to the research question.

3.4. Recording the process

Research for an artist encompasses the specific periods of time allocated to the collection of information in the form of notes, sketches, photographs, found items, books, and anything else that will provide the artist with the inspiration and information necessary to develop and translate their idea or project into a unique piece of artwork. This documentation of how a piece of work has developed can often be regarded, retrospectively, as a piece of artwork in itself (New, 2005). Exhibitions of artwork are increasingly presented alongside the artists' sketches, notes and other supporting materials. Where the recording of information has taken place, it provides some understanding of the artistic process; an understanding of how the artist has lived, what his thoughts or experiences might have been, in parallel to how his work has developed. However, this does not necessarily provide an answer to which links the artist made within this time to develop their work and practice. This is largely attributed to the nature of creative work developing intuitively, which happens outside the constraints of recorded thinking. Bennett (2006) points out that this leads to an "intellectual chasm between practice and research with practitioners leading the way" (p. 15). Even interviews with artists are retrospective as they give an overview of the process and not a detailed thought process. Scrivener (2004) differentiates between this type of research carried out within a practice and practice-based research, pointing out that the first is carried out to complete a project proficiently, whereas the latter is carried out to improve the proficiency with which a practice takes place. In view of this, I adopted a way of recording information throughout the research that combined both research for the artwork and for the research question.

The progress in the artwork was recorded in various formats as I was working using a number of techniques. The analysis of the work and the ideas that were generated and contested was recorded in a set of journals (**Figure 2**). There is roughly one journal for each year of the research and they are a combination of thoughts and sketches in the sequence of their occurrence. Because the work developed in short concentrated bursts of activity, I did not see the purpose of time stamping each entry. I do not think this information highlights anything other than the hectic lifestyle of the researcher-freelancer-parent. The difficulties of managing time were as much an advantage as they were a disadvantage. The periods of gestation were in fact dictated by factors that had little to do with the research. In terms of the artwork this was an advantage, on a practical level, as it allowed me to view my work with a 'fresh eye' and I could be less precious about it. It is less likely for me to dismiss

something if I have been working on it for long time, even if intuitively I know it is not working. However, after some time has passed, I am able to detach and do so more objectively. The fact that I was working in short bursts added both clarity and urgency to the project. For this reason, I set aside time to focus entirely on the research. These scheduled timeframes had a clear starting and finishing point so the research assignments I set myself carried with them the same stress as a work deadline. This I felt was important for a practice-based research project that in contrast to other art studies may be more relaxed. There is in making a picturebook a stress about producing something in a certain amount of time as publishers set deadlines that must be met. Marta Altes often makes caricatures relating to the stress of a deadline in her Instagram feed.

The progress of the digital work was recorded in a more structured way. Saving multiple version of my work remains an intuitive habit from using older software at the beginning of my career, when the 'Undo' function was only available for one step and as such it does not interfere with my thought process. Multiple versions of the artwork were saved at crucial stages of the development work, which show a step-by-step progression of the artwork. In contrast to artwork that is created using a technique involving acrylics or inks, where recording progress can be intrusive, the computer offers an easier and more accurate snapshot. That is not to say that every movement was recorded; this is neither useful for the research nor productive for the artwork but digital work is more transparent. Layers of paint cannot be peeled back to remind us of how an experiment progressed, unlike digital layers that can easily be exposed, revived and studied.

3.5. Timeframe, Workplace and Feedback

The research was carried out on a part-time basis over the course of six years to accommodate my freelance work and young family. During this time I had the opportunity to present two papers that emerged from the research and I have participated in two local group exhibitions. These activities contributed some feedback for the artwork, further to that offered through my supervisory meetings. The most valuable aspect of this was the affirmation that the work carried out was communicating to a wider audience in the way I intended for it to, as no notable debate emerged from these activities.

The practical work was carried out primarily in my studio at home, which is based in the heart of Colchester. Although at the start of the research I had hoped to use the print room at Anglia Ruskin regularly, the commute (2 hours each way) proved to be too time consuming and disruptive to the process. I subsequently built my own small printing press. Some of the research was also carried out in Greece at my parents' home. This was particularly helpful for the final project, as the warmer climate meant I could study the plants I was writing about.

Picturebook artists often reveal that they are primarily concerned with what the artwork and story means to them rather than an intended audience (Salisbury, 2007; Tan, 2010). I too found that as the final project developed and started taking its final form, I became completely preoccupied with what I wanted to achieve both as a practitioner and a researcher. Aside from feedback from my supervisor, which was offered in the guise of questions that I might want to consider, I became very aware that I did not want the work to progress in any direction other than I could take it. For this reason I also chose not to discuss the project with any publishers.

3.6. Identifying as a researcher

Hockey's (2003) research into the identity of the artist in practice-based research documents that the most successful outcomes are those where the practitioner has identified with being a researcher and accepted the research as part of their creative process. This has enabled them to use their research as a way with which they can develop an understanding of their practice, combined with the potential of acquiring new skills and developing new procedures and therefore creating new artefacts (Hockey, 2003). It thus becomes the responsibility of the researcher to adapt to their new position as artist/researcher by developing mechanisms that will allow them to work creatively as well as to observe (both consciously and subconsciously), to document and question their practice, in an endeavour to create an artistic response in context with theories and knowledge already in place.

More recently Vaughan (2017, p. 9) makes compelling arguments to echo the conclusions of Hockey's (2003) findings from observations she has made through her own practice. She presents the idea of the designer/practitioner/researcher expanding on Frayling's (1993) project descriptions. Although at the start of the research I felt I had to fulfil different roles, that of the designer or illustrator or researcher, as my research progressed I too identified with this idea of a cohesive

practice-based research where design, practice and research occurred simultaneously. Whereas to start with I felt I was looking over the research model deciding which way to go, by the end of the research I felt as if I was in the centre of the model along with my research question.

Chapter 4: The First Experiments

This chapter discusses the first three experiments that were conducted according to the planned approach, determined in Chapter 3. The fourth experiment, which also took place as part of the same approach, is discussed in its entirety in Chapter 6. The reason for this is that in contrast to the first three experiments, where ideas were developed as storyboards, the last experiment was developed as a complete project, from a concept to a prototype book.

The experiments discussed here reflect, both in-action and on-action, on the intuitive development of ideas with particular intentions, to enhance a narrative with nonfiction. As such, each experiment is completed through a suggestive storyboard. In the triangular model (**Figure i**, p.30), this phase of the research, based on design and exploration, is located towards the bottom of the triangle, involving several loops of reflective research. Collectively they give an insight into how a project that aims to present nonfiction information can develop. The trajectory of the research with an emphasis on design studies evolved as a consequence of the observations from these experiments. These outcomes are discussed in Chapter 5.

The scope of the first two experiments was to investigate the idea of whether pre-existing narratives could be adapted to include fiction or nonfiction, whichever component was missing to create a new picturebook. **Section 4.1** discusses the outcomes of the first experiment, where an attempt to add a fiction narrative to the alphabet sequence was made; the alphabet sequence representing the nonfiction narrative the story would be based on. This first endeavour was quite challenging, as the role of the fiction and nonfiction narratives had not yet begun to unravel. **Section 4.2** subsequently reviews the second experiment, an attempt to add nonfiction to an established fiction story. For this investigation I used an established folk tale as my starting point. This presented me with the opportunity to look at how nonfiction information could be integrated into a formed plot. The last **Section 4.3** examines how the creation of a new fiction story, with the view to combine both fiction and nonfiction simultaneously, emerges in contrast.

Making a Start

Being able to choose a subject, any subject, to base a story on can be as exciting as it is daunting. The four approaches I had identified to carry out the research, in place of a client's brief, were open ended and presented endless creative possibilities. In contrast to a brief, however, that has a starting point and an objective, I did not have a subject in mind to use for the foundations of the project. This made creative thinking a challenge, so I turned to the work of other artists for inspiration. The closer I looked at other artists' work, however, the more difficult I felt the task became. I discovered that completed artwork, with no clear insight into the process and no indication of a starting point, was more intimidating than a blank page. To overcome a creative block such as this, it is suggested that something has to be made, a mark of some sort to disturb the empty space (McNiff, 1998, p.33; Salisbury, 2004; Tan, 2010). This took some time of deliberation, and subsequently my first sketchbook is filled with notes instead of drawings. Eventually, the first mark I consciously made took the shape of a small fish and this was the starting point for the experiments that follow.

4.1. Adapting nonfiction to incorporate fiction: A B Sea

From the little fish outline I created a small rubber stamp (**Figure 3**). My love for the sea and sea life comes from its proximity to wherever I have lived and experiences such as snorkelling over the Red Sea reef as a child. I felt this was a good place to start because of this personal connection. I considered an alphabet book as this is one of the first educational picturebooks children encounter. The predetermined nonfiction sequence the alphabet provides meant I could use the alphabet as the nonfiction narrative for the experiment. The fact that the alphabet sequence cannot be disputed made me feel safe in terms of the nonfiction content the experiment required. As the letter C is a homophone of the word 'sea' I called this experiment A, B, Sea.

My first dilemma was whether the story should involve just sea life (fish, corals, sea plants) or also include life around the sea (ships, boats, swimmers), so I started by making lists of sea life and things relevant to the sea in alphabetical order. At this point, the list of words limited to sea life -such as anemone, angelfish, barracuda, clownfish- pointed directly to a nonfiction narrative akin to a dictionary so I decided to broaden the scope of the story. One of the outcomes of this approach was an alphabet rhyme (**Appendix 1**) where each letter name is introduced and followed by

a phonetic exemplification, 'A is for angelfish...' and so on. Alphabet rhymes as such, however, can be ambiguous for children that cannot yet read. When an inexperienced reader has to rely on the text to eliminate the possibility for confusion, identifying the wrong word is a strong possibility. In an alphabet book, a picture of a parrot can be used to illustrate the letter P, as much as the letter B, as a parrot is also a bird. The text therefore cannot guarantee that all the children that will read this will be able to determine that the symbol for parrot is P. Experiments have shown that children that are less proficient readers and rely on the pictures will invariably make mistakes on which word is being illustrated (Carter, in Silvey, 1995, p.17). So this seemingly straightforward approach needed some further consideration.

Another consideration was that the text, in its initial form, did not form a story. After mapping out a rough storyboard for the rhyme (**Figure 4**) however, I noticed that although there was no specific storyline to follow, the layout of the words and pictures combined with the rhythm of the rhyme were able to hold the alphabet sequence together. My intention from the outset had been for the words to accompany the images across double page spreads. It appeared that this continuity allowed an indirect, wordless narrative to form. I considered that changing the title to Dive into the A B Sea would invite the reader to follow the words through the sea, much like a swim over the reef. Yet I still felt intuitively that the role of narrative had not been fully explored. My personal, critical observations were that the rhyme did not have a strong sense of fun and that the expectation that a young child would know the difference or want to know the difference between an angelfish and a clownfish, exciting as the illustrations could be, might be unrealistic. These considerations I found were very much from the perspective of the designer that has been given a task to produce something with a particular function (Potter, 2002) and less related to creative expression (McNiff, 1988).

I consequently noticed that alphabet picturebooks with a storyline where there was a clear start, middle and end, used a combination of visual and verbal cues to create excitement. In Alison Murray's *Apple Pie* (2010), based on the idea of the well-known Apple Pie rhyme, which has been illustrated many times since becoming popular in the late nineteenth century, the narrative depends on the illustrations more than the words. Here the reader can follow the story without the support of the words or the alphabet. In Kerr's *Mog's ABC* (1986) although the story is told using more words, again the alphabet could be overlooked. The alphabet is in fact both

separate from and immersed in the narrative. Also, in both books the letter shapes are inserted as separate entities from the text and images; their role is twofold in that they both dictate the content of the page they are on and remind us that this is a book about the alphabet as much as it is about the characters involved. The suspense in how the story will develop, given the restriction presented by the alphabet sequence, in itself creates counterpoint and gives these books another dimension. When the alphabet is presented in this way the book can therefore be used both as a storybook and as an alphabet book. When I experimented by reading the books with the absence of the alphabet sequence by covering up the letters I found that they did not seem as enjoyable.

Another common feature the books have is that even though each story revolves around one character, the character is not represented through the alphabet signifying 'counterpoint by characterisation' (Nikolajeva and Scott 2006, p.25). In *Mog's ABC* for example the letters C and M are not used to describe cat or Mog. Although there is a variation in the complexity of the narrative of each picturebook (in *Mog's ABC* there are more words and characters than in *Apple Pie ABC*), in my view neither approach resulted in a more powerful story but rather a different way of doing things. However, a recent study by Colozzo and Whitely (2014), suggests that the use of simpler stories for younger children with continuity in the appearance of characters and fewer reintroductions of characters proved more suitable for younger ages. Certainly, an alphabet book's primary function is to introduce young readers to the letters of the alphabet and, as such, it should cater for the needs of this younger audience (Carter, in Silvey, 1995, p.17). In view of these observations an alphabet book with a very simple storyline would be preferable.

With these observations in mind I reviewed my storyboard again. The simplicity of the rhyme was relevant to the objective of the book. Covering up the letters of the alphabet did not make a significant difference because the sequence was contained in the rhyme. Completely removing the rhyme, however, transformed the book from a rhyme to a collection of pictures with a common theme. The pictures no longer had something to hold them together. The project it seemed would benefit from the addition of a character to bring the story together. Given that the text existed, was this actually necessary? The question highlighted for me that the interactions between visual and verbal narratives were not clear if viewed just as images and words.

The story did not evolve to its next stage immediately and was perhaps stifled by the drawings I made, which were not progressing with any real momentum or emotion (**Figure 5**). I have noted in my sketchbook that because this experiment took place in the winter and out of context, I was making sketches by referring to images on the Internet and these held a stillness that was quite flat and uninspiring and not a reflection of what the sea means to me. Over the course of the research several ideas for introducing a character to this alphabet book came to me, including a ring lost at sea, the lost First Years' rubber ducks of 1992 and travelling through the sea with a yellow submarine. These ideas were not developed but considering them was useful in providing further evidence that the combination of fiction and nonfiction for an alphabet book was not as straightforward as I envisioned.

4.2. Adapting Fiction to Incorporate Nonfiction: Martina

The second experiment I had planned involved adapting an established story to incorporate nonfiction. At the time, a friend introduced me to the Latin American folk tale of Martina and Mr. Perez (**Appendix 2**), a love story about a cockroach and a mouse. During her retelling of the tale, concerned she might frighten our daughters, she had adapted the story by changing the central character of the tale from a cockroach to a butterfly. When I heard the story, I was inspired by the notion of adaptation as a method by which nonfiction could be introduced to established fictional tales. I decided to use this folk tale as the basis of my second experiment.

The tale is best known through Pura Belpre's version *Perez and Martina; A Portorican Folktale* (1932) (**Figure 6**) illustrated by Carlos Sanchez M.; however, there is much ambiguity about its actual origin. Consequently, the many different versions told across a number of Latin American countries hold just as many variations in the chain of events. Carmen Agra Deedy's *Martina the Beautiful Cockroach: A Cuban Folktale* (2007) (**Figure 7**) is significantly different from Belpre's version, both in the storyline and illustration style. This, on the one hand, allowed me more creative freedom for adaptation, as there seemed to be no particular 'right way' of telling the story. On the other hand, the extent of the adaptations made the moral of the story inconsistent, so this was also left to my interpretation and I felt I needed to be careful not to overextend my version. Zipes (2012) points out that differences are expected, even necessary, as tales are retold, suggesting that they should evolve organically and adapted to new parameters as required by cultural and social changes. In wanting to adapt the tale's purpose I

wanted to ensure the essence of the original story, at least as I understood it, remained intact. I concluded that the story communicates messages on three levels. The most obvious was the moral message, a warning of the dangers of vanity and greed. Next the sequence of events serves to entertain children, as well as to introduce them to different animal sounds and traits. Lastly, the tale helps to endear children to the generally disliked and often feared cockroach, which is common in the households of hotter Latin American countries.

My intention was for the story to maintain its Latin American roots and provide non Latin American readers with information about Latin American culture. It seemed the obvious place to add a nonfiction narrative was through cultural references to the country it is most likely thought to have originated from, Cuba (Crowley, in Dorson, 1975, p. 508). To this effect, there were several advantages to keeping Martina in the character of a butterfly. Firstly, a butterfly is associated with dancing, for which Cuba is well known. This presented an opportunity to alert the reader to the dances that originate from Cuba. Secondly, the wings could be used for the application of the make-up instead of the face, allowing the space for more exciting patterns to develop and subsequently bypassing the gender stereotypes that folk tales and fairy tales often perpetuate (Westland, 1993). Thirdly, the fact that a butterfly can fly from one place to another with ease meant there was opportunity for the scenery to change and possibly give the reader a better understanding of Cuba as a real location.

In order for the tale to be identifiable as that of *'Martina and Mr. Perez'* the same sequence of events that is used in all the versions I came across was retained. I decided to use a set of animals similar to other versions of the tale: the rooster, the pig, the goat, the dog and Mr Perez the Mouse. I also maintained that only the leading characters of the story have a name. However, I decided, based on the fact that I did not feel the death of Mr Perez was adding to the moral or cultural value to the story, that instead of the original sad ending for the story I would follow a happy ending where Martina saves the mouse.

Publishers and agents generally recommend that modern picturebooks are about 500 words long arranged over 32 pages (Silvey, 2011). The text I had written for the initial story of Martina the Cockroach (**Appendix 3**), however, was twice as long at about 1000 words. Folk tales primarily depend on words and not on images to illustrate the story and are more text heavy than a picturebook. Books with fairy

tales and folk tales that contain illustrations are therefore referred to as illustrated books (Nikolajeva and Scott, 2006). Although there are examples of picturebooks with more text and more pages than the standard recommendation, I was interested in how the industry restrictions would affect this particular story. I approached the storyboard with a view to finding ways to reduce the text.

As I reflected on the progress of the experiment I noted that the scope of the experiment had expanded from **adapting fiction to incorporate nonfiction** to:

- Adapting folk tale narrative to picturebook narrative
- Adapting folk tale narrative to include nonfiction information about Cuban dances and culture.
- Appropriating setting to incorporate key Cuban landmarks
- Adapting folk tale to make morals relevant to modern western society.

In this experiment the trajectories were involved in every direction of Fallman's (2008) model (**Figure i**).

The storyboard that emerged (**Figure 8**) was designed to incorporate nonfiction information about Cuban landmarks through illustrations. Martina, in this adaptation, does not dance with her suitors in her garden; instead, she dances with them at a new location every time. The text introduces this new location and a dance, as in the following example: "*So they joined a street party at the Malecon and danced salsa all night long*". To incorporate these new concepts, I added a fold-out page for each of Martina's dances (**Figure 9**). These extra four pages for each dance would allow the story more space for the lengthy text and give the reader the time to inspect the illustrations closely. The industry standard was therefore not adhered to but overridden.

I started working on the characters by making quick rough outlines (**Figure 10**). Some of the ideas for the characters had started to take shape in my mind from the first time I heard the story but I was still unsure of what technique would be most appropriate. As Munari explains

The graphic designer usually makes hundreds of small drawings and then picks one of them. This helps [him/her] to find the image best adapted to a given theme, and each image and technique has precise qualities of its own and transmits a certain message. (1966, p.63)

My first drawings of Martina's face (**Figure 10**) emphasise the fact that she is an insect; her head is very large and her eyes are also disproportionately large.

Martina's face took a more human form as the drawings progressed. I felt it was important to make Martina's character elegant, so I decided to shape the ends of her feet as ballerina pointe shoes. This way she would be able to dance better. I chose the ballerina bun hairstyle to complement the pointe shaped feet and because it suited the shape of the butterfly head. However, because I didn't want her character to take on the form of a ballerina, I chose not to add a tutu, and kept her dress in line with the body of a butterfly. For this same reason, the pointed shoe and its ribbons are not outlined and traditional ballet positions were not illustrated. The pointe outline and the ballet bun, therefore, serve as references to elegance using our knowledge of the ballet figure.

With a more complete storyboard and more defined ideas for the characters I was inspired to approach the artwork. For this I tried a number of approaches starting with outlines (**Figures 11 -16,**) and experimenting with adding colour on the computer (**Figure 17-19**). I also experimented with some printmaking (**Figures 20-23**). This second approach provided me with a more satisfying result from the perspective of both colour and texture. As the prints were made using water based inks (which dry much quicker than oil based ink and have a matt finish) and a small book press (which is designed for proofing and doesn't provide as even a distribution of pressure as a larger printing press), the unevenness in the matt colour reminded me of the flaking paint associated with buildings in Cuba. Schwarcz and Schwarcz (1991, p.151) highlight the importance of aesthetics, particularly when the environment is integral to the story. Although their position comes from the viewpoint of the child and his or her immediate environments, their observations are applicable, in my view, to any situation where 'the plot is a pretext, for without the wish to characterize a place the book would not have been created' (ibid. p.123). It became apparent to me that if the role of the setting was to become as important as that of the tale I would have to focus on developing the background of the illustrations.

To form a comparison I worked on the same scene of Martina dancing with the rooster using Adobe Illustrator to completely remove every hint of texture and achieve clean lines. Working digitally meant I was able to experiment with colours at a quicker pace compared to the printmaking process. The illustration quickly developed to a first draft (**Figure 24**). Even though there were more colours and more details could be added I thought that the information the reader was getting about Cuba as a real location was too polished and modern and therefore

inaccurate. If I were to see the illustrations and then visit this place I would have more realistic expectations of what I would see from the aesthetics of the lino print than I would from the digital print. Schwarcz and Schwarcz (1991 p. 132) describe books superior in a sense of place as those that:

‘not only denote a region and its characteristics; they carry connotations of moods, relationships and concepts connecting the background with the people acting and experiencing against it.’

Moreover, they identify that in those books that lack meaning in term of place the background is either missing, ‘an afterthought’ or an ‘exaggerated manipulation’. I conceded, therefore that for this project to progress, I needed more knowledge about the place than I had anticipated.

I am unsure whey I presumed otherwise, perhaps I was caught up in the excitement of making the story work, as normally, when commissioned to illustrate a place, I will visit the place, to sketch and take photographs. This first hand observation affords me a personal interpretation, which is lost when starting with someone else’s perspective. The illustration of Martina’s house (**Figures 11 and 17**), which evolved from photographs of colonial buildings in Cuba, such as Hemingway’s Finca Vigia, was more likely to look right than the illustration of larger open spaces, which I struggled to visualise the perspective of. This was based on my understanding of the shape and size of such colonial houses that I had acquired coincidentally from previous experience. Therefore, even though I was using photographs taken by others I was still using my own knowledge for interpretation. It occurred to me that perhaps even my choice of locations for the story would be different if I had better knowledge of the place from a first-hand experience. In the case of Cuba, my visual information relied on stylized photographs from the perspective of the visiting tourist or the travel agent and this reflected superficiality. For a convincing nonfiction adaptation of the tale, the illustration would require a more honest starting point. I decided that in view of this, I would have to wait until I was able to visit Cuba.

4.3. Simultaneous development of a nonfiction and fiction narrative for a fictional story: Martha Mystery

The Martha Mystery experiment evolved from stories I used to make up to entertain my daughter when we were travelling, inspired by detective books such as *The Famous Five* and *Nancy Drew* series. The stories were improvised and therefore, more often than not, each story was a new adventure, involving a new place and a

different plot. What remained constant were the main characters of the story, so with time, Martha Mystery and her pet Jack Russell, Patch, developed personalities of their own. I had experimented with jotting down one such story on a trip to Italy (**Figure 25**) but it had not taken shape, so during a visit to Barcelona, 9 months later, I tried again.

The story emerged very quickly both verbally (**Appendix 4**) and in the form of a rough storyboard (**Figure 26**). In contrast to the Martina experiment, I developed the idea for the story *in situ* so I was able to weave the nonfiction into the fiction narrative. As an example I refer to an idea that developed during a visit to Parc Guell. When walking underneath the main terrace I noticed that the Doric columns supporting it were aligned in such a way that, in the blink of an eye, people walking across the space, appeared and disappeared amongst them. All the children that walked through immediately started playing hiding games. I thought this was an exciting way to show movement, whilst at the same time conceal what was actually moving, creating some suspense, suitable for a mystery (**Figure 27**). I noted that without actually being at this specific location I would not have been able to envisage this scene. Furthermore, the setting for this story is 'integral to the plot', a term Nikolajeva and Scot (2006, p.69) use to describe books with a complex setting, drawing specific attention to each location, so it is has a different purpose compared to the setting for the Martina story which has the role of a 'backdrop'. The reader here has to notice the setting to understand the story. The reader also has to notice the setting to understand the city. It occurred to me that the plot of the story was communicating the visual information on two equally important levels. The reader from this particular scene discovers that the park's terrace is supported by Doric columns, that these columns are wide enough for someone to hide behind with ease and that they are located near a well-known dragon sculpture. The reader also understands from this scene that there is a thief dressed in a particular way, doing something significant in the context of the mystery as it seems he is moving the dragon sculpture from its place.

Whilst the plot for this experiment developed well, I found that the opportunity to focus on drawing did not present itself. As illustrators/educators Salisbury (2004) and Lord (2007) both emphasise the technical aspect of illustration, as well as the sources of inspiration and technique need time to develop. For a project of this nature I knew I would require some time of concentration to draw *in situ*. My rough drawings (**Figures 28**) completed in snatched five minutes here and there were not

sufficient to take the project to the next stage. According to Sipe (2001), parts of this story would fall into the category of a 'picture storybook' on art history employing a narrative about visiting museums and hence carry the responsibility of presenting information on artwork accurately. Knowing I would have to return to the same locations for the illustrations to develop, I did some work on the characters of the story. Since these were both based on my daughter and our pet dog from the outset, it was difficult for me to visualize the characters in any other form (**Figures 29-31**). During this phase of the research some other ideas for the paratexts (**Figure 32**) and the cover of the book (**Figure 33-35**) also developed.

As I contemplated whether to pursue a return to the city of Barcelona to develop the storyboard further, I retrospectively questioned how the role of nonfiction was influencing both my visualization of the illustrations and the way in which the story developed. At the start of the research I had visualised fiction and nonfiction as two separate entities that could overlap, to create either a more exciting nonfiction story or a more informative fiction story. My new position of enquiry following the experiments was how did these entities overlap visually and verbally?

Chapter 5: The Narrative Interaction Diagram

The outcomes of Chapter 4 suggested that an analysis of picturebooks from the perspective of how fictional, nonfictional, visual and verbal narratives interact would therefore be useful. I had already started considering what factors were affecting the process, trying to work out the different ways that information, interacts, verbally and visually (**Figure 36-39**).

This chapter addresses the role of narrative in nonfiction picturebooks with an overview of relevant published work, using my personal observations as well as critical and theoretical reviews. The analysis starts with a description of how the literature was chosen. It then provides a synopsis of how narrative is defined and considered in picturebooks and suggests how nonfiction narratives in the literature selection will be considered using an analytical diagrammatic approach. The rest of the chapter describes the observations made using this approach through a series of case studies, which for ease of reference are categorised by subject areas.

5.1. A concise selection

The investigation started by identifying literature that represented this otherwise undefined category of picturebooks. This meant establishing a set of criteria that defined which picturebooks were relevant to the research question. I considered those that address a nonfiction subject, using one or more types of narrative, including: a visual narrative, a verbal narrative, a factual narrative and a fictional narrative. My final selection consisted of 50 picturebooks that fulfilled these criteria, published in the English language since 1900, covering an even spread of nonfiction subjects including: travel and culture, history and art history, nature and science, mathematics and alphabets. Whilst the majority of the books chosen are well known and/or critically acclaimed, I also included books that are less known yet fulfil the criteria of the investigation.

In addition to this selection, I identified some nonfiction picturebooks that did not have a strong narrative but that used illustrations, design or structure to enhance the nonfictional information at the time of publishing. Including these books in my selection enabled me not only to familiarise myself with the skills involved in creating nonfiction illustrations of all kinds, but also to gain better understanding of how the nonfiction book is evolving and how creative nonfiction picturebooks in specific fit

into this context. These books were: *Pond Life* (Chadwick and Gorvett, 1952) for historical observations, *A Street Through Time* (Noon, 1998) for the detailed representational illustrations, *The Kingfisher Natural History of Britain and Europe* (Chinery, 1992) as an example of Dorling Kindersley reference layouts, *Going to the Getty* (Seibold and Walsh, 1997) for graphic illustrations and *A First Book of Nature* (Davies and Hearld, 2012) as an example of a recent reference book.

To reflect the point of time that this research takes place in, I limited sourcing to bookshops for the newest popular publications and libraries for well-known publications. I also used charity shops and online websites for older out-of-print copies to source books that I had read as a child that made lasting impressions on me, both as a designer and illustrator. It is acknowledged therefore, that the literature I will refer to is highly subjective and was not to serve the purpose of a historical review but to provide an understanding of nonfiction picturebooks that can inspire the creative process of developing a picturebook.

Whilst I may not refer to all the books I have studied in this chapter, it is noteworthy that throughout the research I have used these books both for inspiration and to try to understand the creative thinking and artistic skills applied by each practitioner. As such I have made reference to them where relevant throughout this thesis and they are included in the Bibliography. I will now discuss those books that give a better understanding of narratives in nonfiction picturebooks from my perspective as a practitioner.

5.2. The Narrative Interaction diagram

The following review will refer to literature that incorporates both fiction and nonfiction narratives that are visual and/or textual. I have proposed **Figure ii** as means of illustrating the possible interaction combinations of four narrative types.

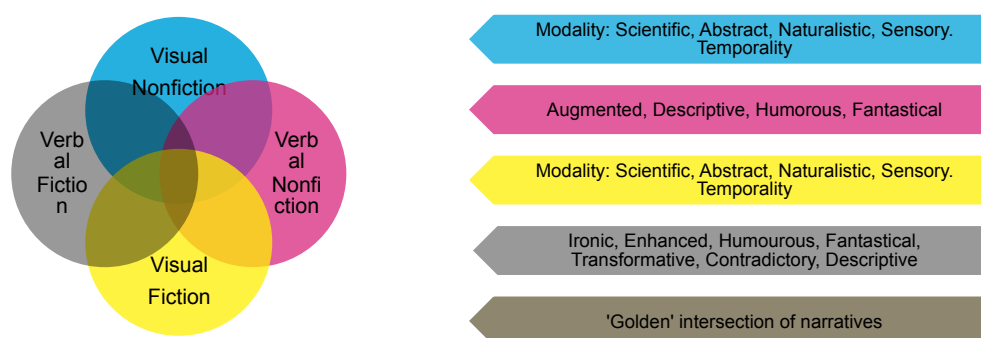


Figure ii: Interaction possibilities between narratives in picturebooks of nonfiction context

By adjusting the size and positions of each circle, the diagram will represent my observations for each picturebook reviewed. The diagram is therefore indicative of nonfiction/fiction/verbal/visual interactions and advocates that each circle comprises of different subsets of narrative such as modality, interdependent storytelling, enhancement, humour, irony, transformation, fantasy, contradiction (Agosto, 1999; Lewis, 2001; Nikolajeva and Scott, 2006; Nodelman, 1988; Salisbury and Styles, 2012; Styles and Bearne, 2003). A large overlap, which I refer to as the 'golden' intersection (due to the olive/gold colour in **Figure ii**, suggests a highly creative/narrative nonfiction picturebook that engages all types of narrative. The other areas of overlap indicate other tendencies that can be analysed further.

Out of all the books I studied, the ones I was most interested in were those that answered a nonfiction question using a visual or verbal narrative with fictional context. I noticed that the more prominent the overlap of narratives as depicted in **Figure ii** the more exciting and enjoyable the story was. Nikolajeva and Scott (2006) describe the existence of more than one narrative or view in picturebooks as counterpoint. According to their analysis 'picturebooks that employ counterpoint are especially stimulating because they elicit many possible interpretations and involve the reader's imagination' (ibid., p.24).

Stimulation and imagination has been at the core of Mitsumasa Anno and Eric Carle's work. Both famous for their creative nonfiction picturebooks, they have described the objective of their work being to "teach without teaching" (Marcus, 2012, p.12) and to "camouflage teaching" (ibid., p.77) respectively. Despite the very different picturebooks they have made, both in subject matter and in illustration style, this aim resonates throughout their work. Both use a visual fictional narrative to support factual information imaginatively, which makes their books fun and exciting as well as educational.

More recently, the notion of learning through play has become more prevalent in the design of reference nonfiction picturebooks, despite their lack of narrative. Moss (2001 p.110) advocates that 'image rather than print led' design makes the reading of nonfiction material less work and more play. Today the internet is increasingly important in how books are used, designed and marketed. Particularly in non-fiction books we see additional references to book sites with extended information, links to more specialist sites, downloadable images as well as online games that function as tools for improving learning through playing.

Kress and van Leeuwen (2001) support this emerging multimodal design for nonfiction information, which appeals to more than one sense and style of learning. They attribute this change to technological developments in printing and question how digital design is changing our literacy habits and abilities. Their concept resonates in the range of literacy skills today's children acquire at a very young age, allowing them to follow multimodal semiotics and therefore absorb information at different levels: visually, verbally, acoustically and physically.

5.3 Science and Natural History Picturebooks

Although the subject of science and natural history offers the largest selection of creative nonfiction picturebooks, it is dominated by those on natural history. Perhaps this is due to the popularity of anthropomorphism, which is rooted in ancient times (Watson, 2011), and lends itself to the creation of fictional characters that can tell a story about themselves and their lives. An animal with a name can speak to us about its life and habitat as an equal, making it easier for us to relate to its gestures and facial expressions (Nodelman, 1988). In Betsy Lewin's *Booby Hatch* (1995) this basic level of characterisation is introduced in the text by the author referring to the bird by the name Pepe. This is the only fictional aspect of the verbal narrative. The illustrations follow an equally subtle approach; whilst they are very naturalistic, the birds' humorous expressions allude to a personality and feelings (Evans, 2008, p. 75). In the courting dance (**Figure iii**) Lewin has created a visual narrative to tell us her experience of these birds, she is not just illustrating facts but adding her emotions. This personal point of view is atypical of nonfiction (Kress and van Leeuwen, 1996). In **Figure iv** I have represented the fictional aspects of the story with smaller circles; however, as they are embedded into the factual narrative the intersection is still noteworthy.

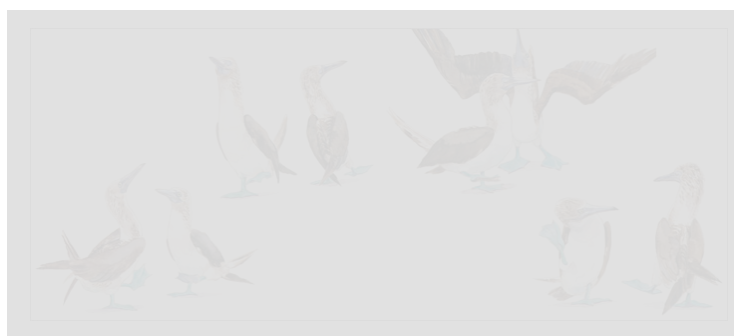


Figure iii: The dance, *Booby Hatch* (Lewin, 1995)

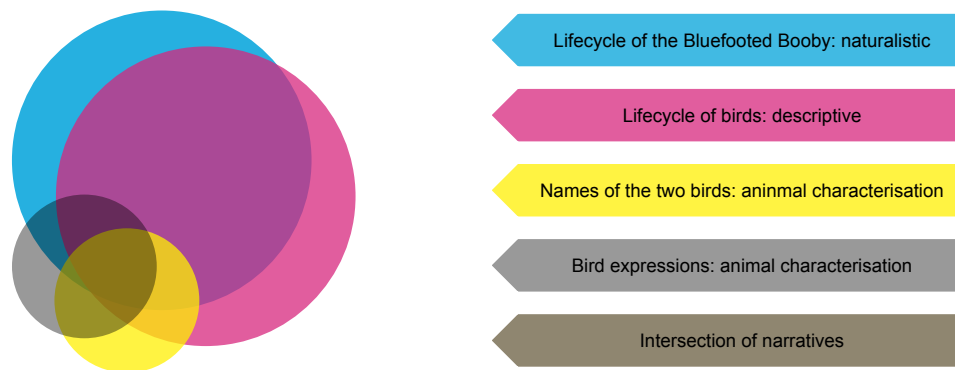


Figure iv: Indicative narrative interaction analysis for *Booby Hatch* (Lewin, 1995)

Colette Portal's *The Life of a Queen* (1962) blends fiction with fact more obviously in both the text and images that tell the story of an ant's life. To remove any ambiguity in why she does so, Portal acknowledges the objective of the picturebook in her closing statement on the last page of the book:

'While this account of ant life is a fanciful one, it is based on fact, and will serve a useful purpose if it overcomes the dislike which many children feel towards ants and so prepares them for more serious study of these wonderful creatures.'

The verbal narrative is factual apart from the words 'Queen', 'marry', 'wedding', 'robber', 'dizzy drink'. These sporadic references to human life are sometimes used metaphorically but they are also used to tie the text to the fictional visual narrative that uses a blend of anthropomorphic gestures and settings. In **Figure v** we see the ants, although illustrated realistically (they are brown with thin legs and their eyes are the only visible facial features), carrying out a range of humanised activities (painting, reading, sweeping, scrubbing the floor), using human tools (a bed, a cover, a book, a ladder, a broom, a dustbin). The room they are in, although shown to be dug into the earth, has steps for the ants to enter and flat walling, very much like a human room. The illustrations tell a story of the ants' activities, which are firstly not realistic and secondly not entirely supported by the text. This dual narrative is described as augmentation in interdependent storytelling (Agosto, 1999; Nikolajeva and Scott, 2006; Lewis, 2001); however, the purpose of the augmentation and subsequent counterpoint is due to a fiction/nonfiction disparity. Subsequently in **Figure vi** I have represented the verbal fiction narrative to show much less significance, although centrally, to represent the important role it has in linking the fictional text with fictional images.



Figure v: *The Life of a Queen* (Portal, 1962, p14)

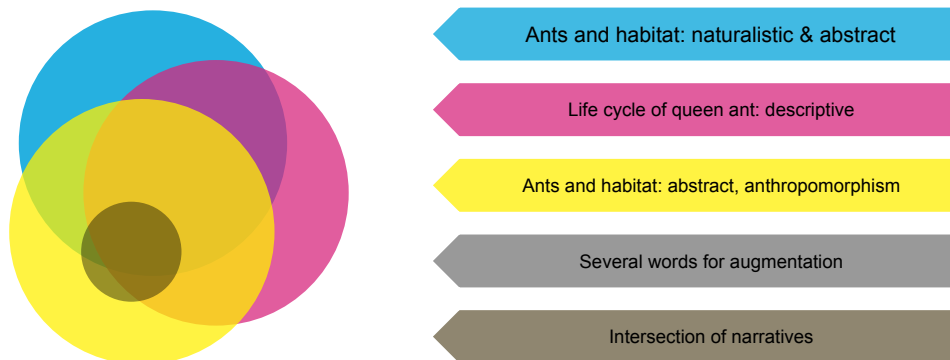


Figure vi: Indicative narrative interaction analysis for *The Life of a Queen* (Portal, 1962).

In contrast in *North: The Greatest Animal Journey on Earth* (Dowson & Benson, 2011) the text, a very factual narrative, written by wildlife author Nick Dowson is enhanced by Patrick Benson's factual illustrations. What is particular about this picturebook is the rhythm of the narratives that enhance the experience of the book. Nodelman (1988, p.244) analyses rhythms of narratives:

'Both the words and pictures of picture books have temporality – both can imply the passage of time, the words by their very nature and the pictures by their sequence. Consequently, both are capable of having rhythms, and the two together create a third rhythm: the rhythm of the picture-book narrative.'

This 'third' narrative, therefore, serves the purpose of a fictional narrative, made up of the juxtaposition of words and images that tell the story together and to the pace

set by the creators (**Figure vii**). In *North* the story is enhanced by temporality. For this reason I have represented the third narrative as a complete overlap of verbal and visual fiction in **Figure viii**.

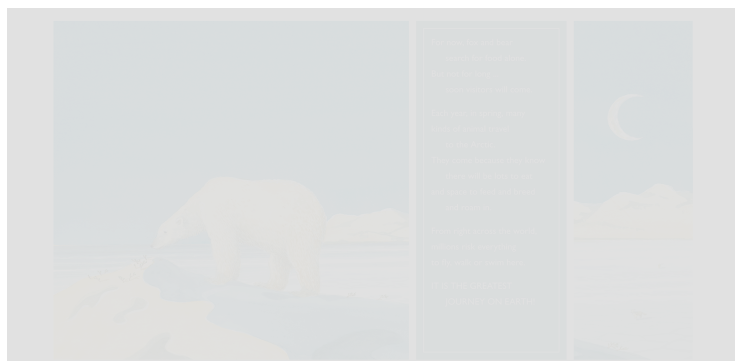


Figure vii: *North* (Dowson & Benson, 2011)

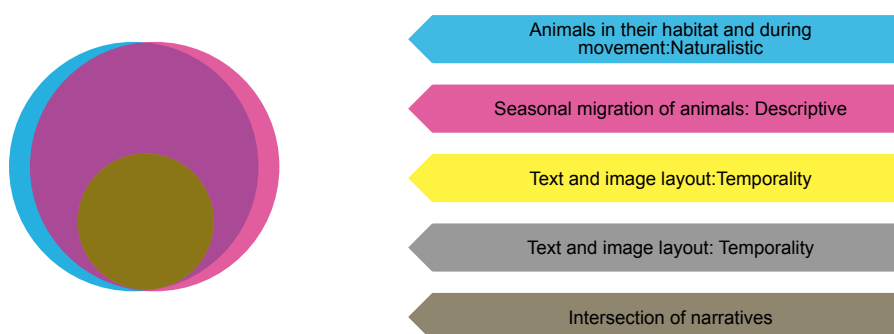


Figure viii: Indicative narrative interaction analysis for *North* (Dowson & Benson, 2011)

An example of how narrative can enhance a scientific subject and make it easy to understand is Pamela Allen's *Mr. Archimedes' Bath* (1980). In this picturebook Allen uses a combination of humour and irony to illustrate the logic of Archimedes' Principle. What is particular to the story is that Allen refers to the historic tale of how Archimedes discovered the theorem using her main character, Mr. Archimedes' nakedness. Although we would not expect anyone to get in the bath with clothes on, the naked body of Mr. Archimedes is not concealed, as we would expect in a child's book. Allen illustrates him getting in and out of the bath repeatedly until he works out the solution to the problem (**Figure ix**). Again Allen refers to historical facts using the Ancient Greek word Eureka! – I found it! **Figure x** therefore shows that fiction and nonfiction are present in both the text and images, although there is slightly less nonfiction text than there is fiction.



Figure ix: *Mr. Archimedes' Bath* (Allen, 1980)

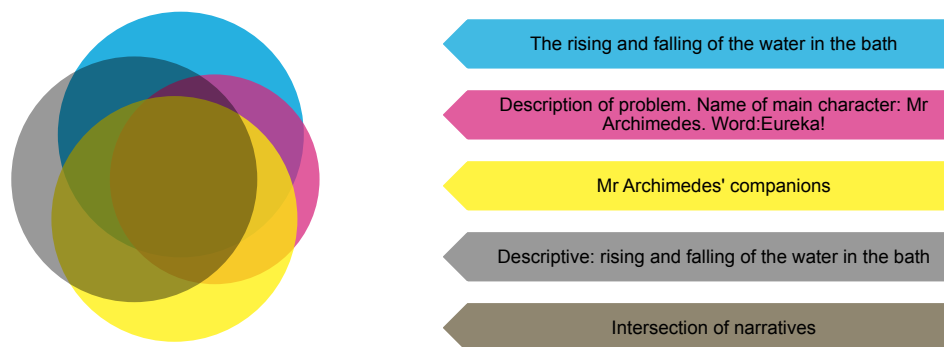


Figure x: Indicative narrative interaction analysis for *Mr. Archimedes' Bath* (Allen, 1980)

It would not be possible to complete a review of this subject area without including one of the most famous creative nonfiction picturebooks, *The Very Hungry Caterpillar* (Carle, 1970) (**Figure xi**). **Figure x** depicts the synergy of four types of narrative, with a strong intersection to show that each narrative contributes to the book equally.

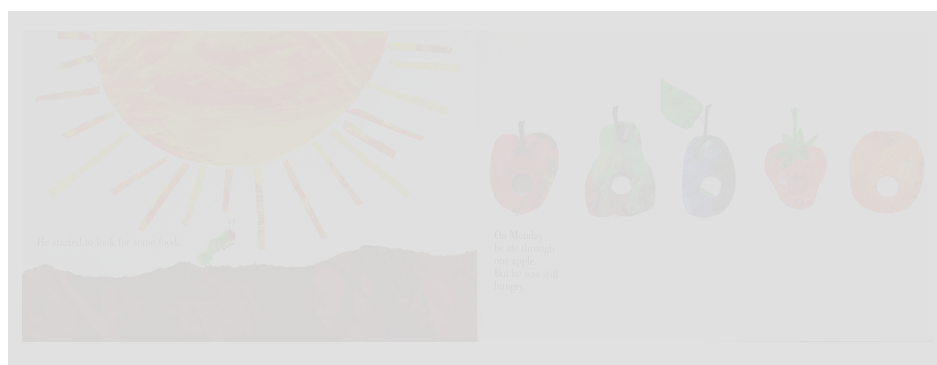


Figure xi: *The Very Hungry Caterpillar* (Carle, 1970).

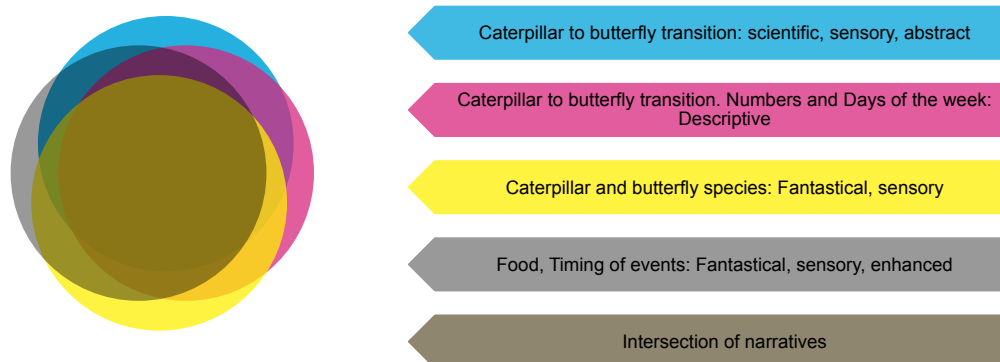


Figure xii: Indicative narrative interaction analysis for *The Very Hungry Caterpillar* (Carle, 1970).

5.4. Culture/Travel

Marc Boutavant's *Around the world with Mouk* (2009) is an interesting example of multiple narratives combining fiction with nonfiction. It is exemplary as it follows the Dorling Kindersley logic of the double spread design for reference nonfiction books (Moss, 2001, p.108), where the image dominates and the text is arranged around it to highlight the nonfiction information depicted. However, in contrast to the traditional reference nonfiction picturebooks, it blends fiction with fact both in the visual and verbal narratives. The story combines fictional anthropomorphic animals, humour, digital imaginative illustrations and reusable stickers (**Figure xiii**), challenging the reader to discern between fact and fiction and make it a book that not only tells a story but allows for factual information to be absorbed, questioned and researched. It is particularly noteworthy that Boutavant uses the endpapers to introduce and conclude the story with direct reference to the additional information on the internet. The closing line of the book reads: 'And I'm going to look on the internet to see if the giant dogfish really is bigger than me, then I'm going to bed'. This acceptance that information is no longer limited to the constraints of the book form (Nodelman, 1988; Kress and van Leeuwen, 2001) is perhaps what is enabling picturebook makers to liberate themselves from the creative restrictions factual images can impose when information has to be presented accurately within such limitations. In **Figure xiv** I have represented the different narratives in equal strength with balanced positions as they are consistent with one another.



Figure xiii: *Around the world with Mouk* (Boutavant, 2009)

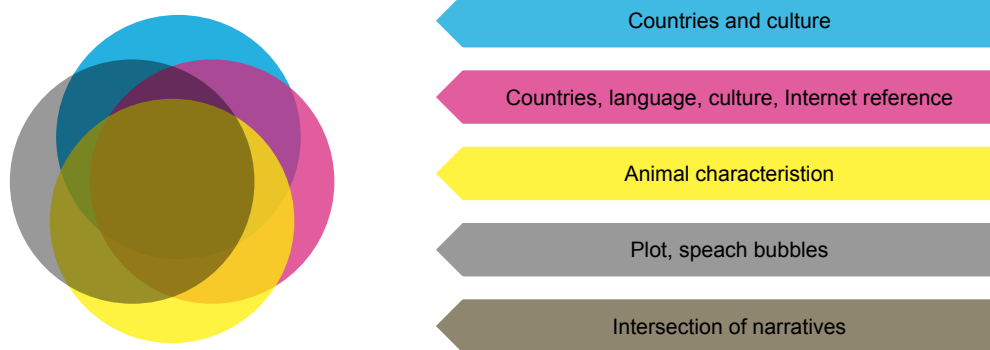


Figure xiv: Indicative narrative interaction analysis for *Around the world with Mouk* (Boutavant, 2009)

Like Boutavant, Salvatore Rubbino uses the double spread nonfiction layout design (Moss, 2001) to combine facts with fiction in his stories about cities. In his book *A Walk in London* (2011) he tells a fictional story about a walk a girl takes with her mother around London. The text is in synergy with a visual narrative and covers fact and fiction; the landscape is factual but the characters and their activities are fictional. These narratives are accompanied by a nonfiction narrative (**Figure xv**). The layout of the nonfiction verbal narrative, although designed non-linearly -which would be considered less work and more play (Moss, 2001)- fragments the fictional storyline (Kress and van Lueewen, 1996) and overpowers it. In **Figure xvi** we see that the relationship between the narratives results in a 'golden' intersection that is not very prominent and a nonfiction visual narrative that is, indicating a less harmonious relationship between narratives.



Figure xv: *A Walk in London* (Rubbino, 2011)

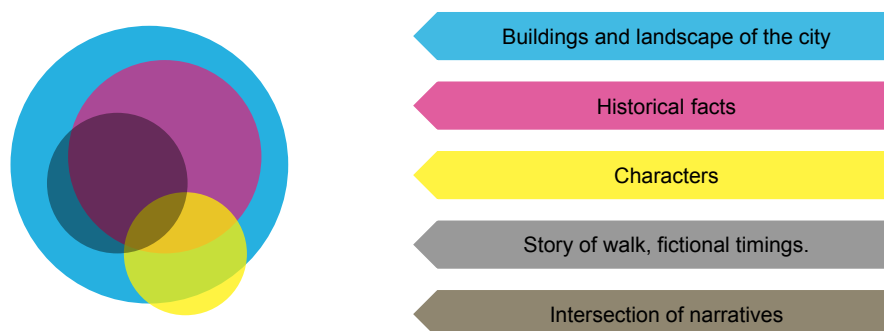


Figure xvi: Indicative narrative interaction analysis for *A Walk in London* (Rubbino, 2011).

I considered how a different approach to travel picturebooks might provide an alternative narrative intersection by examining Ian Falconer's *Olivia goes to Venice* (2010) and Beatrice Alemagna's *A Lion in Paris* (2006). Both of these books are based on personal accounts and experiences and, therefore, the focus is more on emotion rather than factual information. In an interview towards the promotion of his book, Ian Falconer describes how his first visit to Venice as a child inspired him to create the book and tell his experiences. 'Olivia is just basically me', he explains (Simon and Schuster, 2013). Alemagna also talks about her experiences. 'It is the story of a visitor with his shifting view of the city and the reality that surrounds him. In fact the book is very autobiographical.' 'I wanted to show real places in Paris but reinterpret it in my own way, showing the city but also as I see it' (cited in Salisbury and Styles, 2012, p.68). In both picturebooks the authors have used an animal: Falconer uses a pig (**Figure xvii**) and Alemagna a lion (**Figure xix**), to represent themselves and their views of a new place. Yet whilst the characters are fictional, the cultural details, the modality and the personal anecdotes and experiences give the reader an understanding of place and culture. In **Figures xviii and xx** I have represented the intersection using smaller sizes for the verbal nonfiction presented respectively.



Figure xvii: *Olivia goes to Venice* (Falconer, 2010)

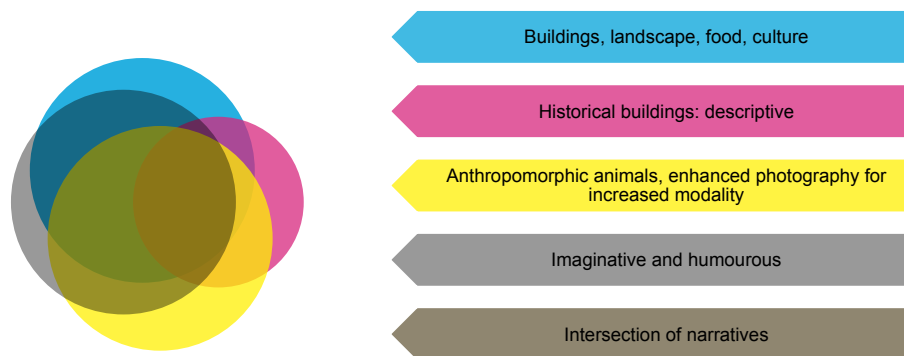


Figure xviii: Indicative narrative interaction analysis for *Olivia goes to Venice* (Falconer, 2010).

Particularly in Alemagna's book the nonfictional verbal narrative is represented by a much smaller circle, as it refers to the places written on the map at the start of the book and the closing historical statement about the lion at Place Denfert-Rochereau. This has an impact on the size of the intersection of the narratives, but certainly there is some noticeable overlap and considerable overlap between the fictional and nonfictional visual narratives.



Figure xix: *Lion in Paris* (Beatrice Alemagna, 2006)

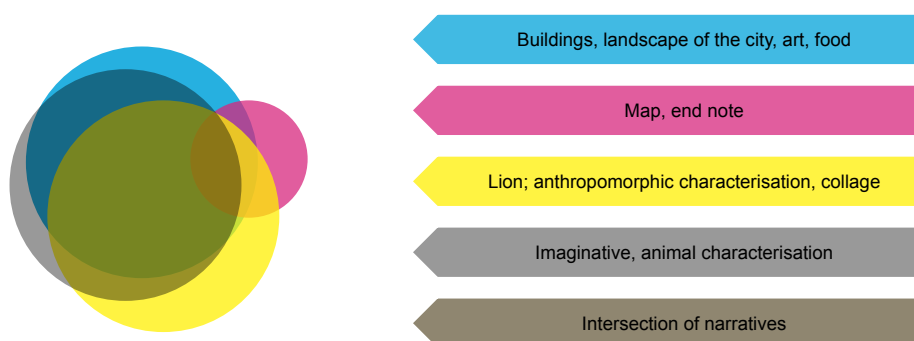


Figure xx: Indicative narrative interaction analysis for *Lion in Paris* (Beatrice Alemagna, 2006).

5.5. Mathematics

Whilst I came across a large selection of counting books that combine fictional narratives with the nonfictional concept that numbers represent quantity, I did not find many stories on mathematical concepts beyond the scope of counting. Counting book stories generally presented ways of collecting, finding or identifying items and used novelty features for added entertainment such as cut-outs, flaps, textures. I was particularly interested in two books I found that discussed two quite complex mathematical concepts: factorials and Fibonacci's sequence.

I have already made reference to *Anno's Mysterious Multiplying Jar* (1982) (**Figure xxi**) created by Masaichiro and Mitsumasa Anno to explain the complex concept of factorials and highlighted the picturebook's two distinct sections (p.10). The contrasting modality between the two sections of the book is held together by the

twice-told fictional narrative as represented in **Figure xxii**. Although there is no ‘golden’ intersection in this book, there is still a substantial amount of interaction between the narratives and a clear indication that the visual narratives are preforming different roles. According to Carney and Levin (2002, p.21) the roles of images in educational text are either:

‘Representational (to make the text more concrete), organisational (to make the text more coherent), interpretational (to make the text more comprehensible), or transformational (to make the text more codable—and more memorable).’

In the Annos’ picturebook we see evidence of all of these roles. The fictional drawings are interpretational and transformational and the nonfictional diagrams are representational and organizational. This indicates that the fictional narrative in this case has been used to enable the illustration of a nonfictional concept in multiple ways, suggesting a stimulating educational picturebook.

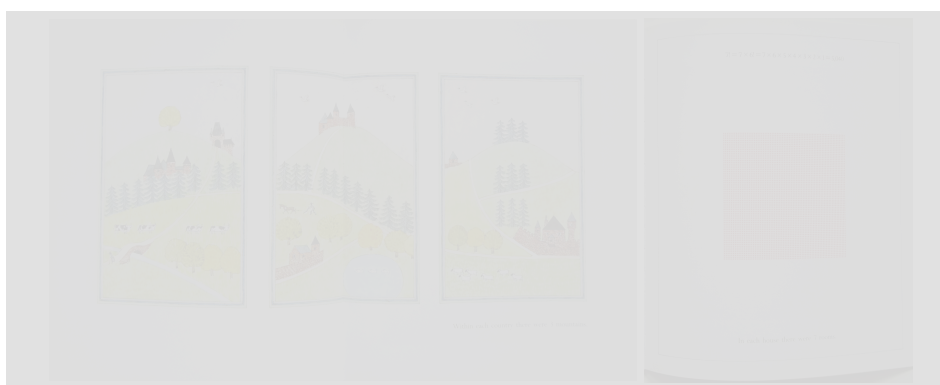


Figure xxi: *Anno's Mysterious Multiplying Jar* (Anno, 1982)

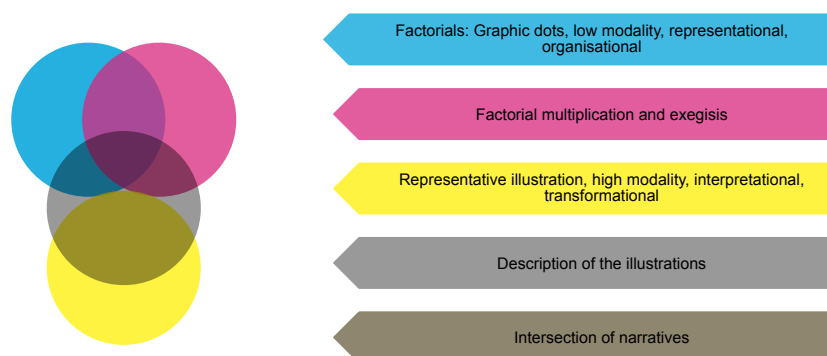


Figure xxii: Indicative narrative interaction analysis for *Anno's Mysterious Multiplying Jar* (Anno, 1982)

Emily Gravett uses a different approach to present Fibonacci’s sequence (1, 1, 2, 3, 5, 8, 13, 21, 34...) in *The Rabbit Problem* (2009). Gravett’s story involves counting a

Fibonacci sequence using counterpoint in a variety of combinations. Here the nonfiction element is not addressed separately as in the Annos' book. Gravett weaves the mathematical sequence into the fictional narrative of the main story. The result is a juxtaposition of counterpoint using animal characterization, humorous situations, lift up flaps (Nikolajeva and Scott, 2006; Smith, 2003). This confirms how extensively different types of fictional narrative can be used to present a mathematical subject (**Figure xxiii**). However, as the legends of the diagram indicate, Fibonacci's principle is not prominent as a mathematical concept in this story, making the intersection small (**Figure xxiv**).



Figure xxiii: *The Rabbit Problem* (Gravett, 2009)

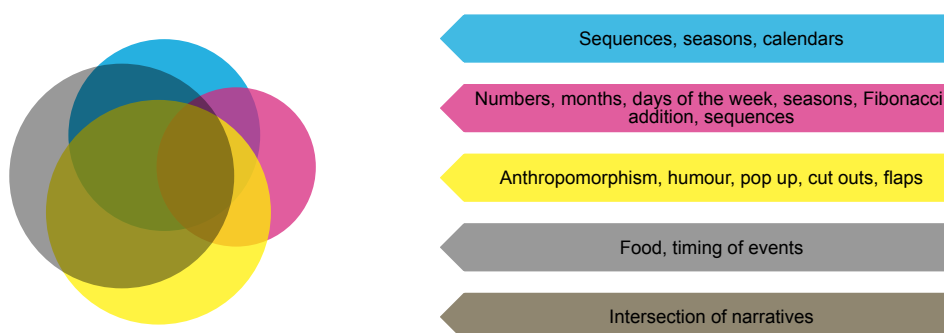


Figure xxiv: Indicative narrative interaction analysis for *The Rabbit Problem* (Gravett, 2009)

5.6. History/Art History Picturebooks

Historical picturebooks with fictional narratives are particular in that they have to maintain historical accuracy whilst having consideration for how well children of different age groups can put time (weeks, years, centuries, BC and AD) and historical settings (buildings, clothes, equipment) into context (Graham, 2001).

Books that refer to wars that carry strong emotions such as Gary Crew and Shaun Tan's *Memorial* (2007) and Hillary Robinson and Martin Impey's *Where the Poppies Grow* (2014) use references to memory to create an understanding of passing time, verbally and visually. They tell a story about time as much as they tell a story about the events that took place. Narratives that link the past to the present, with analogous illustrations enable a reader to relate to a situation (Graham, 2001).

I was interested in William Grill's *Shackleton's Journey* (2014) as it is an unconventional picturebook. Arranged over 78 pages as opposed to the picturebook industry standard of 32, it is a big format book that tells the historical story of Shackleton's journey to Antarctica. Grill uses a combination of infographic layouts, wordless double spreads, sequential storytelling, maps and illustrated text layouts (**Figure xxv**) to break down the factual information of the story, giving the narrative temporality without compromising modality or information accuracy. We see, therefore, a similar representation in **Figure xxvi** as in the case of *North: The Greatest Animal Journey on Earth* (Dowson & Benson, 2011).



Figure xxv: Double page spread from *Shackleton's Journey* (Grill, 2014)

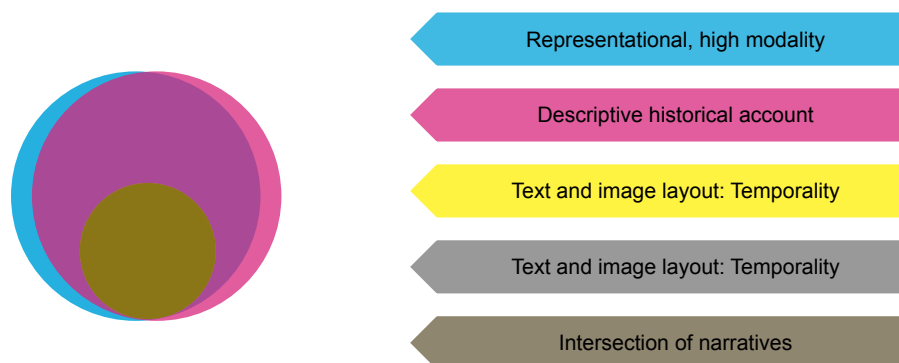


Figure xxvi: Indicative narrative interaction analysis for *Shackleton's Journey* (2014)

Picturebooks that discuss art history offer more possibilities for creativity as they refer to artefacts (objects) as much as events. I will discuss three such picturebooks that I came across and found interesting due to the very different approaches they have on presenting art and the history behind it. James Mayhew's *Katie* books¹⁰ use a girl's magical interaction with paintings in museums as a storyline to discuss the artwork. Mayhew's reproduction of famous artwork so it becomes part of the story as in *Katie and the Starry Night* (2012) (**Figure xxvii**) combines fiction with nonfiction seamlessly. We see this in **Figure xxviii**.



Figure xxvii: *Katie and the Starry Night* (Mayhew, 2012)

¹⁰ James Mayhew's *Katie* series started with *Katie's Picture Show* (1989), a story to introduce children to paintings from Monet, Renoir, Constable and Da Vinci. Mayhew has since made over ten other books featuring other artists and artist movements using the same character.

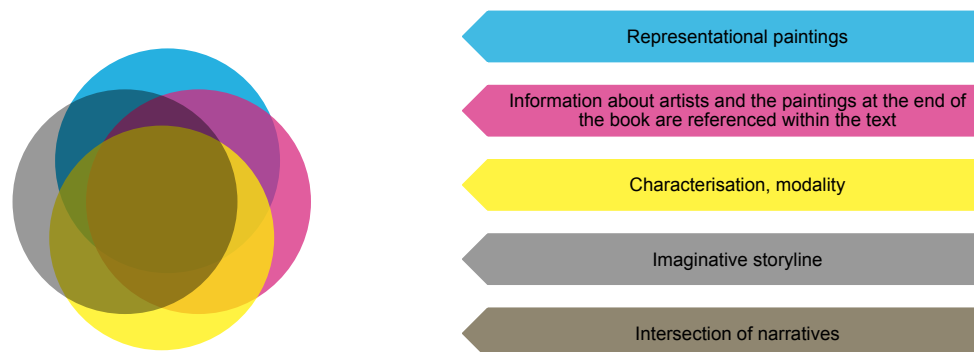


Figure xxviii: Indicative narrative interaction analysis for *Katie and the Starry Night* (Mayhew, 2012)

Antony Browne's book *Willy the Dreamer* (1997) introduces the reader to culture and art through references to famous paintings using his popular character Willy, humour and imagination. **Figure xxix** shows us the famous Dali painting 'The Persistence of Memory' adjusted to include Willy's bananas. Browne describes it as 'presenting great art to children in a way that would make it more accessible to them', explaining that '*Willy the Dreamer* is often used in school as a vehicle for discussing art' (Browne and Browne, 2011, p.146). In his following picturebook about art, *Willy's Pictures* (2000), Browne uses the same idea of introducing famous paintings using the same character, only this time Willy draws himself to tell his story starting with Botticelli's *The Birth of Venus* (**Figure xxx**). Apart from the fold-out at the end that talks about the original paintings from which Willy's Pictures are inspired, the story is told mainly by the illustrations. Browne explains, 'it was important that the paintings could be turned into stories, and in the absence of traditional narrative it was necessary for the pictures to make up a series of micro-stories which children could engage with' (Browne and Browne, 2011, p.150). Browne recognises the importance of the nonfiction text, which he added only to the second book (ibid., 2011), which in turn makes the second book more specific to art history. In **Figure xxxi** we see a very strong interaction of narratives, which with the absence of the nonfiction narrative would change significantly.

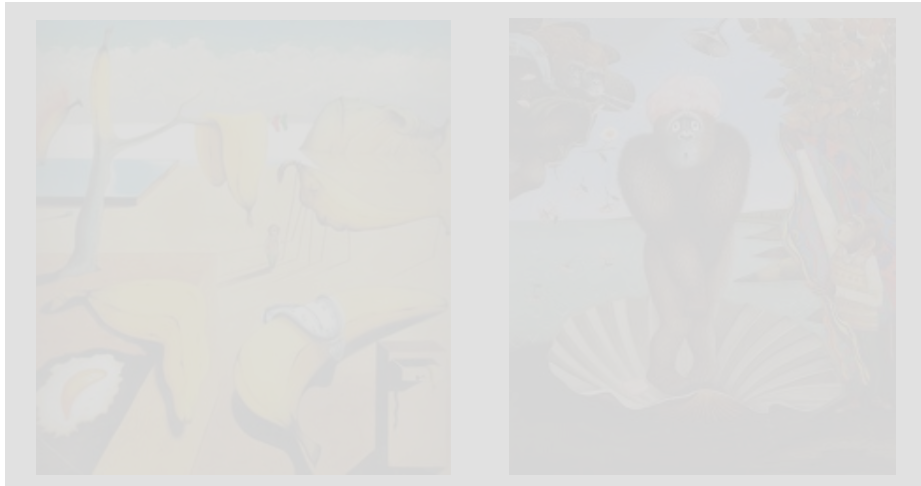


Figure xxix: *Willy the Dreamer* (Browne, 1997)

Figure xxx: *Willy's Pictures* (Browne, 2000)

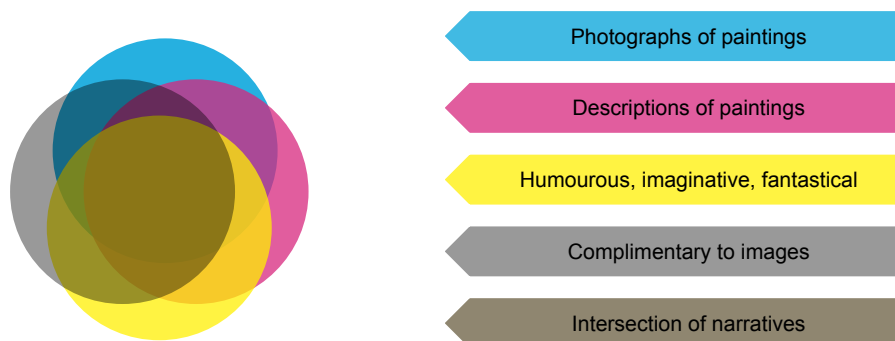


Figure xxxi: Indicative narrative interaction analysis for *Willy's Pictures* (Browne, 2000).

In a different approach Anna Nilsen and Jason Ford combine mystery, cut pages and spot the difference activity in *Mystery Auction* (2005), a picturebook that introduces children to 34 fine art paintings (**Figure xxxii**). Here the emphasis is on referencing and although the idea that engages the reader is innovative, the fictional narratives and the nonfictional narratives are working in parallel with little overlap in what they aim to achieve. In **Figure xxxiii** the intersection of narratives is therefore less prominent.



Figure xxxii: *Mystery Auction* (Nilsen and Ford, 2005)

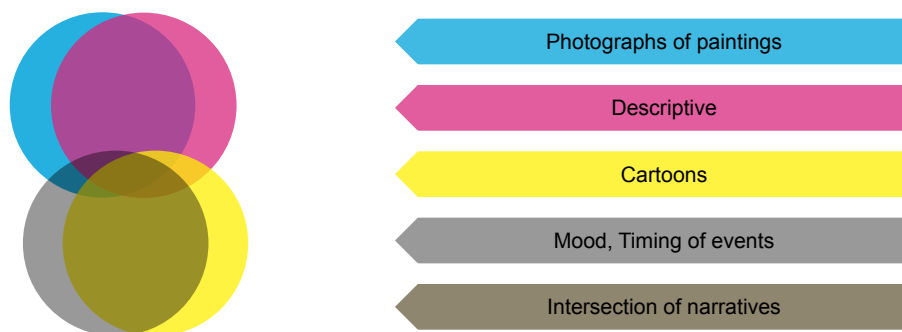


Figure xxxiii: Indicative narrative interaction analysis for *Mystery Auction* (Nilsen and Ford, 2005)

5.7. Alphabet Picturebooks

Oliver Jeffers takes the concept of storytelling one step further in his book *Once Upon an Alphabet* (2014). This is a book with a story for every letter, without which we would not be able to make stories (Jeffers, 2014). Here the text does not follow one storyline from start to finish but 26 consecutive stories (**Figure xxxiv**). The stories, all but A and Z, present different characters but use the same theme. This makes the anthology feel like one bigger story, yet the emphasis is on storytelling without focusing on the alphabet. This is illustrated in **Figure xxxv**.



Figure xxxiv: *Once Upon an Alphabet* (Jeffers, 2014)

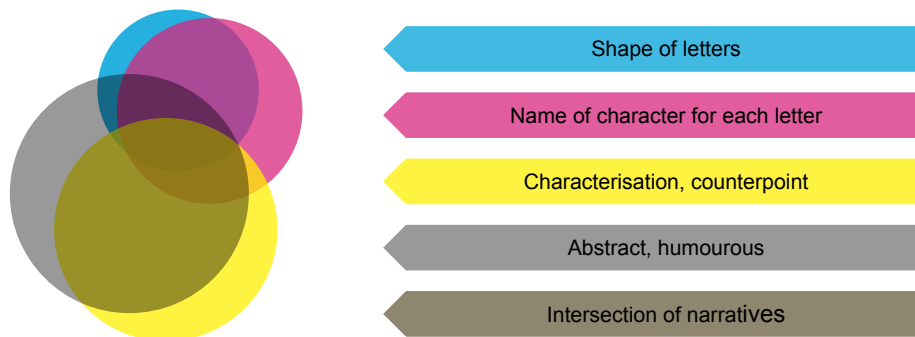


Figure xxxv: Indicative narrative interaction analysis for *Once Upon an Alphabet* (Jeffers, 2014).

5.8. Conclusion

The conclusion we arrive at from this analysis is that the larger the interaction of the narratives of a nonfiction picturebook, the more exciting the book is, with less requirement to work for the nonfictional information. The diagrammatic analysis has been consistent in showing how different subjects and different combinations of narratives interact. It is, therefore, noteworthy of consideration by practitioners, publishers and educators.

Chapter 6: The Wilder West: A Glow-in-the-Dark Adventure

The idea for the book *The Wilder West* (TWW) was developed to examine how nonfiction and fiction narratives relate to each other, from the perspective of the picturebook maker, when starting from a nonfiction narrative idea. This chapter is divided into three sections, each covering a separate stage of the project analysing how the theory informs the practice and how, in turn, the practice informs the theory. **Section 6.1** discusses the source of the idea and establishes the objectives for the new project. **Section 6.2** documents the development of this idea and explores a number of narrative approaches for developing the idea. **Section 6.3** focuses on the idea that showed the most potential in terms of design and illustration as well as understanding the role of narrative. Here I analyse how the narrative developed, highlighting the practical considerations involved when working with glow-in-the-dark materials.

The project explores the natural history of the western North American deserts with a focus on a particular cactus, which I refer to as the *Hylocereus*. During the course of the project I discovered that there are two more types of cactus plants with traits similar to the *Hylocereus* but with substantially different shoot structures: the *Cereus*, the *Hylocereus* and the *Selinocereus*. As I was not aware of these distinctions at the start of the project I will refer to the plant as the *Hylocereus* as this was the first species I encountered and subsequently used in my notes. In the later stages of the project, when it becomes relevant the distinction is made accordingly.

6.1 The source of the idea

Circumstances at the time had made it possible for me to be able to work remotely during the summer months and I was fortunate to be able to stay with family in Greece. It was during this time that I became preoccupied with the pollination of the *Hylocereus* cactus¹¹. I had discovered the *Hylocereus* on a previous visit to Greece

¹¹ The *hylocereus* is one of a small family of succulent plants that flowers once a year, and produces an edible fruit known as the dragon fruit (also known as pithaya). The flower bud grows steadily over the course of four weeks producing a

some years earlier. Fascinated with the beauty of the flower and excited by the prospect of producing dragon fruit of my own, I asked for and was given a cutting to propagate the plant from. Concerned that it would not be able to survive the cold British winters the cutting was planted in my mother's garden and my mother, an excellent and experienced gardener by all accounts, took on the responsibility of looking after this plant for me.

The *Hylocereus* plant instantly became a prized possession and its annual flowering a ceremonial family gathering filled with anticipation. There is something very magical about witnessing nature in action, knowing that the miraculous show due to unfold will last for one night only and that it will be 12 months before it takes place again. Despite the care and attention it received that helped it grow to a considerable size and saw it produce a substantial number of flowers, two years had passed and we had not yet been able to produce a dragon fruit. The investigation as to why this was the case became a regular topic of conversation between my mother and me as we waited for the buds to bloom that summer. Was the plant in the wrong climate? Had I brought it too close to the sea? Was it a species that required crosspollination? Were the appropriate pollinators available? How were we failing this remarkable plant that was giving us such a unique experience? It was during one such discussion that my daughter Pearl, eight years old at the time, noted that as I was spending so much time preoccupied with this plant, taking photographs, researching, making notes and sketches, I should make a book about it.

It is not unusual for inspiration to come from a combination of personal as well as unexpected sources. One that stuck to my mind that I related to was that of Tomie dePaola. When questioned about the inspiration for his Quicksand book, de Paola referred to his childhood memories of quicksand being used in tales to scare him away from a brook but noted that it was not until a request from a child in Hawaii, about a book on quicksand that he considered making a book about it (Elleman, 1999, pg 123). Would De Paola have ever made a book about quicksand had he not

large, beautiful flower with a delicate aroma, known as the Queen of the Night, that blooms during the night and for one night only. The morning after blooming, the flower wilts leaving its stem to gradually swell and become the dragon fruit. This second part of the process takes a further four weeks.

received the request from this boy? Would he have considered making a book about quicksand if quicksand had not made a lasting impression on him during his childhood? This simultaneous recognition of a personal interest or passion and a need for the answer to a specific problem places the designer in two schools of thought. On the one hand, that of the artist answering a question with personal investment and expression; on the other hand, that of the designer working to answer a question that is not only his own (Potter, 2002).

I knew the instant the idea of a book about the *Hylocereus* was mentioned that this was the right path to follow so I started to contemplate how the book and story would develop. I approached the task in the way I would set (or receive) a request for a proposal as discussed in Chapter 2. A brief description of the project and what the objectives of the project were.

1. An understanding of the lifecycle of the *Hylocereus* plant
2. A memorable experience of the queen of the night flowering
3. Experimentation through the use of fiction narratives, either visual, verbal or a combination of both

Following on Yiannicopoulou's (2003) discussion on book genre analysed in Chapter 2, I was identifying the intention of the book as one that would inform, educate and entertain on a particular subject, the lifecycle of the *Hylocereus*. This highlighted my aims but in the same way as a design proposal it did not give me any information on how I was going to achieve this; therefore, for the development of the narratives there was no predetermined intention. In contrast to the approach I had taken in previous investigations, where I focused on one narrative with a complete preconceived visual and verbal idea in mind, I decided to look for a fiction story through the nonfiction story.

6.2 Experimenting with fiction and nonfiction narratives

The conscious decision to experiment with ideas that involved both fiction and nonfiction narratives resulted in a number of storyboards. In total six ideas were considered as possible ways of telling the *Hylocereus* story; however, not every idea progressed to the same level. Picturebook artists often work on ideas that they abandon for short or long periods; sometimes they will return to an unfinished project and complete it, other times the idea serves as a learning curve (McNiff, 1998). I have retrospectively noted that all of the storyboards have contributed to

how the project evolved. So in many ways these investigations were the stepping-stones to the final story.

In parallel to the development of the story a visual exploration of the shapes and colours of cacti took place. Here in contrast to the exploration of the narratives I did not set myself any intentions further than a very generalised heading: Cacti. In design and illustration briefs an understanding of the context of the objectives is crucial in how a project will develop and cannot be limited just to the understanding of the objective (Potter, 2002, p. 55). In this investigation a combination of techniques were employed including sketches, pencil drawings, photography, printmaking and painting. Although these outcomes will be discussed in the context of the development of the verbal and visual narratives of the book, a comprehensive record of this work is available in the Visual Thesis.

6.2.1 Storyboard A: Using nonfiction visual and verbal narratives

The most natural way to consider a story about the *Hylocereus* was to storyboard a true account of the lifecycle of the plant. In this storyboard the visual narrative was more important to me than the words and in my sketchbook (**Figure 40**) we see the words are noted alongside the sketches suggesting a symmetrical narrative. I envisaged the illustrations would follow a simple text and that they would fill the gaps presented by the simplicity of the text. In this way the reader could absorb as much information as their age and interest allowed them to. According to Nikolajeva and Scott (2006), this is typical of a symmetrical and duplicative setting that is important in stories with historical context.

Although the storyboard illustrations were not developed further these first sketches have determined much of the design and illustration that followed. An example is the double page spread that I maintained throughout all the illustrations. This first visualisation for the setting for the story stems from the vast landscapes that symbolise the hot western deserts of the Americas. It was, for me, a crucial piece of information that the layout of the book had to provide. Although the research for the lifecycle of the plant came from my personal experience, much of the visual research for the setting came from photographs in travel blogs and websites

dedicated to the deserts the *Hylocereus* is native to¹². The photographs of these deserts showed a great inconsistency in visual information. Close ups of the plant although useful for understanding its structure gave me very little information about the size or location of the plant. They also gave me very little information about where the roots were, where the branches divided etc. Photographs of the plant situated within the landscape gave me very little information about the structure, the roots and sometimes even the colours. To date I have not come across a photograph that would, on its own, be able to give me all of the information I require for me to be able to draw straight from a *Hylocereus* in its natural environment. All the drawings I have made showing the plant in situ are in fact visual summaries, interpretations' (Salisbury, 2004) of all the visual information I was able to locate.

I concluded these thoughts by making a landscape linocut of the desert at night with the Queen-of-the-night blooming from an upright cereus (at the time I thought this was a *Hylocereus*) plant (**Figure 41**). The blue background in the first print was chosen to indicate some night-time visibility. The black background in **Figure 42** was the result of an experiment to show a much darker setting. The flowers here seem to float in the black night like stars and although this removed the context of the setting of the flower that I consider important, I did like the dramatic effect the contrast of the opened flower made with the black background.

6.2.2 Storyboards B and C: Using fantasy to create a fiction visual and verbal narrative

My starting point for this line of investigation was to use a play on the word dragon from the name of the fruit and queen from the name of the flower to create a dragon, knights and princesses story. The aim of this experiment was, in addition to the creative endeavour involved, to develop an understanding of how a strong primary fiction narrative could also tell the reader a nonfiction story. In making the intention of telling the story of the lifecycle of the *Hylocereus* less obvious would the nonfiction information be overshadowed by the fiction or would the fiction support it? Two stories emerged.

¹² The hylocereus, although predominantly from the Sonoran desert, can also be found in the neighbouring Chihuahua and Mojave deserts.

In the first story the main protagonist is a dragon that sets on a quest to discover the dragon fruit, as the name indicates to him that it must be for dragons. The verbal narrative for this story emerged in rhyming form (**Appendix 5, Figure 43**). The dragon (William) locates the dragon fruit plant but cannot recognise it. Everything is green and spikey; it could be any of these. When he awakes in the night he sees a sea of flying objects approaching, could they be more dragons? He soon realizes they are bats, pollinating the queen of the night. He finds out more about the plant and waits for the fruit to grow and ripen; it is a good flavour to refresh the flaming hot breath of the dragon.

In the second storyboard (**Figures 44**) the main protagonist is a princess who believes she will save the kingdom if she picks the Queen of the Night and stops it from producing dragons. As she does, she is chased away by many, many of what she thinks must be dragons. She runs and hides inside a cave only to discover she has been chased by a colony of bats. The bats then tell her the story of the *Hylocereus* and explain why they like the flower so much and how they help it produce the delicious dragon fruit.

From the first instance I felt that the stories were complicated and my concern was that this might lead to confusion on what the key message of the story was. One solution would have been a clear indication in the title such as 'A Dragon Fruit Quest' (Yiannicopoulou, 2003). Undecided which direction to take, I read the stories to my daughter as at the time she was at the right age to find a princess story engaging, as well as to understand the lifecycle of a plant. Although I expected her to be biased, as she already knew the story of the *Hylocereus*, I had not shared with her my idea to include it in a fairy tale. When we discussed the storyboards I noticed that whilst she seemed to enjoy the fantastical element of the stories she barely noticed the *Hylocereus* plant. She was more interested in how the main characters would look and interact. It is not possible to determine with certainty why the discussion focused on the fairytale characters, I may have made them more exciting in my narration. Regardless though of how non-scientific the observation was, it highlighted a concern, that she possibly saw the *Hylocereus* in an inferior role, meaning that inadvertently the *Hylocereus* in this storyline might not always be the protagonist of the story that I wanted it to be.

When I reflected at the possibility of developing these stories further I felt that using the cliché of dragon and princess fairytales was too contrived for me to pursue

(Little, 2015); Sanders, 2013). The narrative's attempt to link the fantasy of fairytales with facts was leading to two competing narratives. This was a similar outcome to the experiment with the adaptation of the Cuban folk tale. I concluded that combining two plots was not a straightforward, if at all viable, option.

6.2.3 Storyboard D: Using anthropomorphism for secondary fiction visual and verbal narratives

My next experiment evolved from this outcome from the B and C storylines. Now my intention was to consider the *Hylocereus* as the protagonist in a fiction narrative. Inspired by Simona Ciarolo's 'Hug Me' (2014) (**Figure 45**), a story that uses anthropomorphic cacti, to discuss the difficulties sometimes encountered when making friendships, I experimented with a new idea. The storyboard that emerged used anthropomorphic cacti to tell the story of the *Hylocereus* and its pollination through the eyes of other garden plants (**Figure 46**).

More specifically it is about a new plant, the *Hylocereus*, that joins an established garden of plants. The *Hylocereus* is a quiet plant that doesn't open its bud to interact with the other garden plants so the garden plants decide to take action. A series of pollinators are given the task of cajoling the *Hylocereus* into blooming but their attempts are futile. The roses send butterflies, the lavender sends bees, the aloe sends a lizard but nothing seems to work. As the sun starts to set, the plants defeated fall asleep. In the middle of the night, while the plants are sleeping, the *Hylocereus* finally blooms and the fruit bats and moths arrive to help with the crosspollination. The narrator then questions whether the other plants will ever see the *Hylocereus* bloom? Is this the sad truth about the *Hylocereus*, that none of its peers will ever recognise how special it is? In answer to this question the story ends with a double-page spread illustration showing other nocturnal species, such as bats, owls, lizards, spiders, *Palo Verde*, and implying these are his peers and that it is OK.

In a similar vein to Storyboard A, and in contrast to B and C, here the *Hylocereus* is once again the protagonist of the story. There is no doubt what the story is about. Developing this idea gave me the opportunity to bring to life the characteristics of a number of other plants and their pollinators. This differs further from the fairy tale approach in that these new characters were adding factual information to the story

whereas in Storyboards B and C, the protagonists are fictional characters of dragons and princesses that do not add more educational value to the story.

According to the criteria set by theorists Nikolajeva and Scott (2006) this story falls in the category of counterpoint by characterization alluding to the potential for a successful outcome. The irony is subtle (Nodelman, 1998) showing potential for both humour and empathy to be addressed through the further development of the characters. I set this idea aside as one with possibilities.

6.2.4 Storyboards E: Using temporality and patterns as a visual narrative

Alongside the storyboards that I had worked on a sense of pattern had evolved (**Figures 47-53**) and at a supervisory meeting we discussed the similarities of pattern with repeating frames to show the passing of time. At this stage of the research I stopped considering the verbal narrative of the story and I focused on how I could illustrate the lifecycle of the *Hylocereus* using only a visual narrative. I acquired a second species of *Hylocereus* to draw from. This one had thick leafy vines that climb on upright formations such as other plants, trees and rocks. I decided to use this more interesting shape of structure in place of the upright cereus structure and made a new linocut **Figure 54**. I instinctively added a background **Figure 55** and this I felt gave the place a definite sense of place.

In these experiments storyboarded in **Figures 56-57** I used a wordless sequence of pictures. In **Figure 58** each frame shows the same plant structure. The only thing that changes is the shape of the bud. This change implies to the reader that time is passing. Nodelman (1998, p.140) describes this as

“Simultaneous succession, depicting movements that are distinctive in time but perceived as belonging together, in an unequivocal order. The change occurring in each subsequent image is supposed to indicate the flow of time between it and the preceding one.”

One frame is used for each day. In my notes I have written: *How else can I show the passing of time? Consider using other passing wildlife – birds of the desert? How long does it take an egg to hatch? 3-4 weeks? Which birds?* This was a key moment in the development of the narrative as I discovered that the pygmy owl makes its home in holes drilled into the saguaro cactus by the woodpecker. Adding a saguaro cactus could give the *Hylocereus* vines something to climb on, as well as illustrate of passing of time.

The outline drawing of the *Hylocereus* in the Sonoran desert setting in was made to explore the techniques that would work for this project. With the more detailed drawing I made a maquette to test the flow of the illustrations and the continuity when turning the pages. Without a verbal narrative it felt like the page turning would play a bigger part in the story.

6.2.5 Storyboard F: Interactive illustrations within the narrative

The maquette that resulted was based on the industry standard of 32 pages. In the process of arranging this wordless narrative over the 32 pages a number of fold out, cut into, cut out and lift the flap pages had crept into the design (**Figure 59-65**). Without the verbal narrative to consider, the ideas of interaction and creating a physical experience started developing.

I considered what other interactive elements I could introduce to the story: a transparency to show the movement of the pollen or a pop up of the flower blooming to animate that first element of surprise. The idea to use glow-in-the-dark ink to replicate this excitement of the flower blooming in the night came to me one evening as I fumbled for my door keys in the dark only to find them with the help of my glow-in-the-dark key fob.

6.3 The glow-in-the-dark book: developing narratives through structure, materials and illustration techniques.

Phosphorescence, one of two types of luminescence¹³, is the ability of certain materials to charge in light and discharge once the light source is removed emitting a bright light of their own in various colours. The length of time it takes to charge and discharge depends on the composition of the material. Such substances are commercially referred to as glow-in-the-dark (GITD) materials.

6.3.1 A brief history of phosphorescence and the first GITD book

The first recorded phosphorescent material was a Bolognese stone discovered by V. Cascariolo in 1602 that glowed blue in the dark (Valeur and Berberan-Santos,

¹³ Oxford dictionary: Luminescence is the emission of light by a substance that has not been heated, as in fluorescence and phosphorescence.

2013). Many years later, in the early 1800s, Edmond Becquerel investigated the properties of phosphorescent material finding ways with which to measure the excitation¹⁴ and de-excitation¹⁵ properties of phosphoric substances. The range of applications of such substances continued to increase, as did the understanding of the substance. However, as Marfunin (1979, cited in (Yukihara andMcKeever, 2011, p. 2) points out “unlike other physical phenomena being studied in the early centuries, a complete understanding of luminescence [required] an understanding of quantum mechanics, a field that was not born until the early decades of the twentieth century”. It is recorded that in 1902 William J Hammer created phosphorescent paint using a mixture of radium and zinc sulphide and this lead to a number of luminescent products becoming available for the public (Frame, 2007¹⁶). The Radium Book¹⁷ (1905) (**Figures 66-67**) was the first book and also the first children’s book to be published with GITD properties. As suggested by its title the novelty of this book was due to its luminescence that came from a thin layer of radium paint added to the illustrations, after they were printed using the lithographic process. Radium paint became increasingly popular until in the 1920s, it was discovered, that a group of female factory workers that used radium to paint watch dials and often licked their brushes to create fine tip, were suffering the fatal consequences of radium poisoning. The tragic eventualities saw a decline in the use of luminescent material for a while. However phosphoric substances have continued to be safely developed and used in a number of scientific and commercial applications. The process involves mixing zinc sulphide with phosphor and either silver, manganese or copper, the latter three substances being responsible for activating the phosphor and giving it the blue, orange or greenish glow. For the purpose of this part of the research, my focus was the application of GITD paints, inks and printed material in children’s picturebooks.

¹⁴ The excitation of a phosphoric substance takes place when it absorbs light.

¹⁵ The de-excitation of a phosphoric substance takes place from the moment it stops absorbing light and simultaneously starts emitting the light it has absorbed. The amount of time this lasts depends on the material, proximity of the light source to the material and length of excitation time.

¹⁶ accessed 10 mar 2017

<https://www.ornl.gov/ptp/collection/radioluminescent/radioluminescentinfo.htm>

¹⁷ The Radium Book by William Rose, illustrated by Harry Hornhorst. Cleveland: Rose Pub. Co. 1905. <https://www.alephbet.com/pages/books/37334/william-rose/radium-book#sthash.MAhdV7mX.dpuf> - accessed 10 mar 2017.

6.3.2 Glow-in-the-dark Children's Books

In recent years a combination of fashion trends and the development of enhanced commercial printing inks have resulted in an increased production of children's books with GITD features. These books largely cover subjects on:

- Space and star constellations
- Bioluminescence (natural luminescence occurring under the sea, fireflies and other insects)
- Skeletons and dinosaurs
- Bedtime and dreams
- Halloween

It is not unusual for such books to combine the use of GITD with other interactive elements such as pop ups, cut outs, stickers and tattoo stickers. Another common feature is that the GITD material mostly replicates the narratives that are visible in the light (**Figure 68**). When the lights are turned off, the reader can see some or all of what they could see when the lights were on, glow. The success in continuity from light to dark depends on whether the GITD visual is able to communicate a narrative in its own right. Otherwise the reader has to repeatedly turn the lights on and off interrupting the reading process. This, according to Hayes (2011), is a criticism that relegates the application to one that is gimmicky and less desirable for parents.

Some authors have however considered the abilities of the GITD medium in different ways. Herve Tullet's 'The game in the dark' (2012) can only be experienced in the dark as the entire book, with the exception of the covers, is printed in GITD ink and the reader does not have any text to refer to (**Figure 69**).

Isol's 'Nocturne Dream Recipes' (2012), invites the reader to consider what the glow-in-the-dark image will be using simple phrases and simple illustrations in soft colours. Isol has also taken into consideration the charge time required for the GITD paint. The book uses spiral binding across the top of the page and the back cover can be folded to create a stand for the book. The reader is invited to leave the book open near a source of light, before bedtime, to give it a good amount of charging time making the reading experience immediate without the gimmicky feel (**Figure 70**).

Commercially, although expensive due to the cost of pigments, it is as simple as adding a fifth/special colour separation to the offset printing process. For smaller print runs a similar effect can be applied by screen printing the GITD ink. Both processes involve a number of considerations that vary depending on the application technique. Therefore, to understand the capabilities and limitations of this medium I used a combination of practical experimentation and observations of commercially produced books.

For the *Hylocereus* story I wanted to use the GITD ink to differentiate between what happens in the daytime and what happens at night. The narrative describing life in the daytime would be accessible in daylight and the narrative describing life at night-time would be accessible at night. In this way the book is not just educating on a cognitive level but also on an emotional level.

The first consideration of how to do this involved the physicality of the transition between daylight and dark. Neither a hardback book like Tullet's, nor a spiral standing structure like Isol's, provided a suitable solution. My experience of the Dr. Seuss book 'What was I scared of? A Glow-in-the-dark Encounter' (2009), bound in the traditional book codex, was that a significant time had to be spent charging the pages before I could see the GITD images sufficiently. The book had to be charged before or after it had been read. The problem in this set up was that if not enough time had been spent charging each page equally, the GITD element lost its narrative credibility relegating the GITD to a gimmicky role rather than an alternative visual communication. The codex of the book did not lend itself to the role I wanted the GITD material to have in my story, as I wanted to introduce a new narrative, not to reiterate what had already been seen in the light, I wanted the transition from light to dark to be as seamless as turning a page. To allow the charging of all the GITD material to take place simultaneously each page would have to open at the same time as the others. I arrived at the conclusion that a book structure that would enable the maximum exposure of each page to light was the concertina.

6.3.3 Concertina Structure

I continued my investigation into a narrative spread over a concertina structure, considering the subject of the lifecycle of the *Hylocereus* with a number of pattern-making experiments. One of my first considerations for this was the physical

structure of the concertina. What was an appropriate size for a commercial concertina book? Was this is also an appropriate size for children?

My first attempt was based on instinct following the repeat of a linoprint of *Hylocereus* vines. **Figures 71-72** show the development of the pattern. After printing several pages of the repeat I felt that the pattern was long enough (**Figure 73**). My eyes only seemed to be able to take in a certain amount of space. To be able to absorb more visual material, I needed to physically reposition myself, or that which I was trying to see, neither of which I wanted to do. The amount of visual space we have coincides with the vanishing points of an image and is relevant to our proximity with that image. When reading we have to hold the book with our hands and therefore we are restricted in what we can hold and see by our arm's length so our vision range will invariably fall at roughly the same point (Kress and van Leeuwen, 2006). With this in mind, I made a digital illustration of cacti repeats and produced the first dummy concertina measuring 1350 mm by 20 mm, divided into 9 segments with 8 folds. **Figures 74–76** show the development of this work. The size of this first dummy book felt like a manageable and comfortable size for a young reader and the first sketches were based on these measurements.

The majority of the concertina books I came across following these observations were in fact of a similar length but they consisted of nine folds to make up ten panels. At the time of the research, Nobrow had established a range called *The Leporello* series; consisting of, as suggested by the title, concertina books. The majority of these were being produced to a consistent set of dimensions. Slightly taller and narrower than my first dummy, these books measured 1400 mm by 235 mm and were presented in a dust jacket made of the same material (**Figure 77**). The extra height suited my illustrations so later in the project the first dummy size was adjusted to fit this unofficial, industry standard for concertina books set by Nobrow.

The concept of the Nobrow concertina dust jacket was borrowed in its entirety, as I had not encountered this idea for keeping a concertina together before. There are many ways to keep the concertina from unfolding, traditionally one end of the concertina extends keeps the panels from unfolding (**Figure 78**) or the two ends (sometimes reinforced by card) are secured using a ribbon (**Figure 79**). For the purpose of my project the dust jacket would invite the reader to look at the landscape as a series of frames as well as one continuous image. Laura Little

(2015) describes the structure of the concertina book and identifies each frame as the space between two mountain folds agreeing that it is readable both as one of conventional codex as well as one large tapestry frame. Folds in books are used to create boundaries as much as they are ignored. Suzy Lee (2011) uses the binding fold of a book in each of her trilogy books *Mirror* (2003), *Wave* (2008) and *Shadow* (2010) to define a boundary that transcends the physical and participates in the narrative. Other artists take advantage of the expanding space that a double page spread offers and fill it with one big illustration or word to make a large impression. Grill uses the double spread to illustrate the enormity of both the landscapes and the challenges the characters face in *Shackleton's Journey* (2014). Whilst for more particular details he breaks the space up using white space and small illustrations.

6.3.4 Botanical Illustrations

Confirming a definite structure for the book allowed me to focus on the shapes and patterns of the plants, so I investigated the more traditional art form of botanical illustration. I was particularly drawn to those illustrations that included other details such as small insects or that illustrated the different stages of blooming on the same plant stem. It occurred to me that within these illustrations there was a visual narrative that had been added purposely and that this was not necessarily a requirement for a successful botanical illustration.

Although not the first to include insect life in botanical illustrations Maria Sibylla Merian was an artist who made her mark through such illustrations and transcended the traditional botanical illustrations role as a method for the systematic classification of plants. Merian's complex illustrations comprise of not only the life cycle of a plant but of the insects and other life forms that use the plant as their habitat. Her aim as she explained it was not just to identify species but also to tell the story of their life (Kemp, 1998; Valiant, 1993; Etheridge, 2011). Merian's illustrations are as a consequence of her intentions, as much illustrated as they are authored and designed. A recent technical study of Merian's illustrations by Schrader, Turner and Yocco (2012) confirms this observation. The study has identified that Merian deliberately and carefully positioned and moved items to balance her final composition. On the surface, and from the view of a modern designer this is a necessary process that signifies little more than a professional approach. However, the technical difficulty involved in carrying out this process during Merian's time, confirms not only her exceptional skills in engraving and watercolours but a remarkable preoccupation with the design and composition of

her work. It reinforces that she was determined to tell a story about the wildlife and not just represent it technically.

From the first storyboard, A, it is clear that it was important for me to show the interaction of the plant and its flower with other life forms (the bat). This continued to be the case in all the storyboards. It highlights that my interest is not in making a technical or reference illustration where counterpoint is absent. It highlights that there is an intention for counterpoint, an invitation to consider a chain of events.

The dilemma of how to interpret this came from an educational perspective. Would a child understand that the illustration was describing a process? In my notes I noticed that I was placing the buds to show a step-by-step progression of growth (**Figure 80**). The growth follows a progression in the code of simultaneous succession (Nikolajeva and Scott, 2006), the same type of continuous narrative employed by hagiographies where a number of images relating to a different point in time are contained in one picture. According to Nodelman (1998) and Schwarcz (1992) it assumes that the reader will be able to decode this using prior knowledge. At a later stage of the project I decided to make this more explicit using the well-known scientific lifecycle of a caterpillar turning into a butterfly (**Figure 81**). Although I believe that the age group this book will be most relevant to would have the prior knowledge to decode and understand the growth progressions, the caterpillar-to-butterfly cycle provides an opportunity to learn to decode for those readers that might not already be able to, with guidance from a more experienced (adult) reader.

As I became more comfortable with the shapes of the *Hylocereus* and other cacti, other characters started appearing in my sketches. After the bat, a small lizard and an owl appeared (**Figures 54** and **Figure 82**). As I researched what species of lizard and owl would be living in the harsh desert climate, I started finding out more and more about the North American desert wildlife. I decided that there was more scope to the story than just the lifecycle of the *Hylocereus*. The period that followed involved a significant amount of research into the plants and animals of the three hot deserts of western North America: the Sonoran, the Chihuahuan and the Mojave deserts. For this reason I decided to call the story *The Wilder West* (TWW). The next phase of the project was based on developing a concertina storyboard and establishing a technique for the illustration. **Figures 83-97** show the gradual development of these ideas from concept to a physical object.

6.3.5 Alebrijes and Amates

Whilst collecting information on the animals of the Sonoran desert I repeatedly came across images of the brightly coloured Mexican folk art sculptures known as alebrijes. The idea to investigate this art form further came shortly before a supervisory meeting by serendipity. I had printed a copy of the concertina spread on matt paper to see how the colours would translate from computer screen to paper (**Figure 98**). Whilst I expected a variation, the result was much less vibrant than I envisaged and therefore very unsatisfactory. When I added a layer of GITD paint over this printed image, I made two observations. On the one hand the muted colours I had chosen were light enough to allow the GITD paint to glow on a full colour background. On the other the contrast from the pale colours in the light to the bright neon GITD in the dark was conflicting. Disappointed by this outcome and wanting to produce something much brighter and bolder I started doodling some alebrijes patterns on a brighter glossy printout of the first two panels of the concertina (**Figure 99**). The outcome pleased me more than the softer colours (**Figure 100**) so I took this altered printout to my supervisory meeting and also showed it to my colleagues. The consensus was that the brighter colours were much more exciting and in keeping with the bright colours of the GITD material and therefore the patterns and colours of the alebrijes should be investigated further. At this point I reflected on the objectives of the project in the same way that I would re-evaluate a design or illustration brief that had changed direction. The change of direction brought clarity as I now had a concise brief for a project; however, the new parameters required a new understanding.

The use of folk art indigenous to the Sonoran desert for inspiration was exciting but it also demanded a consideration of appropriateness. Although it is characteristic of picturebook artists to apply the styles of other artists or cultures when relevant to their work and as such is not considered copying but quoting (Nodelman, 1988), I was aware that it would require consistency and for that I would have to develop my own technique and my own visual vocabulary (Manolessou, 2011). The concertina structure also pointed to the codex of another folkloric art form, known as Amates art¹⁸, made by the indigenous people of Nahua of Mexico. This type of artwork involves the creation of one scene to tell an entire story, similar to hagiographies

¹⁸ Amates artwork first came about in the 1950s as a solution to the less profitable and cumbersome traditional painted pottery that supported the local economy (Bartra, 2011, Joyce (2007)).

and tapestries. The complexity of such narratives varies from artist to artist but the technique is consistent in that it involves making simple black ink outlines often filled in with brightly coloured paint. In the award winning children's nonfiction book *Migrant* (Mateo, 2014) (**Figure 101**), Javier Martinez Pedro uses only black ink to illustrate the story of illegal migration from Mexico to the USA. The long illustration is divided into frames by changes in patterns and folded into a ten-page concertina structure.

I was not opposed to another cultural link between TWW and the region it represented but I was conscious that my visualisation of the project had two significant dissimilarities with an Amates painting. The first was that I did not intend to use black outlines, as these would impact the effect of the GITD ink. The second was that Amates paintings traditionally fill the frame of the paper completely with patterns and designs and this could compromise how much space would be available for the GITD to be used. Both of these characteristics I thought would restrict the space for the GITD element.

I have questioned whether a lack of cultural attachments, due to my culturally diverse upbringing, contributed to the difficulty I had in deciding whether it was appropriate to blend the two distinct folkloric art forms into one. To resolve the ethical dilemma I investigated the historical importance of these artforms. Here I discovered that both alebrijes and amates are artforms with a relatively short history. Both evolved as a way for the indigenous people to earn money and as such, despite the artistry involved, they remain a commodity more than an art. Bartra (2011) explains that because their folkloric nature responds to the demands of the market they are susceptible to modifications from these demands and not from an intention to express or communicate an understanding or problem.

This understanding allowed me to look at the possibilities these folkloric artforms offered from a new perspective. Folk art is suggestive of primitive and simple images and usually accompanies tales from the culture it represents, so from the perspective of location it was appropriate. The hot American deserts all had direct or indirect links to the Mexican culture. For me it also signified a move from the literal to the abstract and therefore imaginative and fictional, allowing me to visualise a narrative that combined both fiction and nonfiction without compromising the nonfiction intention.

In a recent paper, Martin Salisbury (2017) highlights a rise in pattern-making in design and illustration today, similar to the mid twentieth century. He presents many examples that correlate the current trend to a demand for the handmade and traditional. Much like the alebrijes artists, designers and illustrators from Western societies are producing artwork that is led by a commercial demand.

6.3.6 Pattern making and choice of digital

Every alebrijes artist has their own a way of creating alebrijes. Variations in the material for the structure (wood carving or paper mache), as much as in whether the character is real or imaginary, provide endless possibilities for decoration. Some artists prefer floral designs, others more contemporary graphic shapes and others the more traditional linear Aztec patterns. I too wanted to develop my own 'alebrijes' way of illustrating the animals and plants of TWW within the constraints of the characteristics that make an alebrijes instantly recognisable. My first attempt was a mule deer. Using a sketch I had made for the base I painted a flat shape with acrylic gouache and added details with paint markers (**Figure 102**). From this I worked on some more animal shapes using ink, gouache and pens (**Figure 103**). These quick vignettes were based on alebrijes I had seen produced. They helped me established a way of thinking about shape, colour and pattern. Luis Pablo, an internationally recognised alebrijes artist makes reference to taking inspiration from other artists' work such as Manuel Jimenez, Isidoro Cruz and Abad Xuana (Herz, 2016). I noticed that the overlap in pattern styles and design was evident throughout, yet each piece was also unique. As Owen Jones (1965) explains:

'To attempt to build up theories of art, or to form a style independently of the past, would be an act of supreme folly. It would be at once to reject the experiences and accumulated knowledge of thousands of years. On the contrary, we should regard as our inheritance all the successful labours of the past, not blindly following them, but employ them simply as guides to find the true path'. Grammar of Ornament.

From the vignettes, I established an understanding that just like the alebrijes had to carve the shape of the alebrijes, I had to form the appropriate animal shape 2-D shapes, so I moved from the hand-drawn to the computer. Using the computer provides a less immediate way of working; however, the advantage is that shapes, patterns and colours can be tried and tested easily. The mule deer at this point became red as it helped me to envisage its place in the scene better (**Figure 104**).

In my 2-D alebrijes illustrations I wanted to find a mark that I could use as a pattern to accent the movement of animal hair and position of limbs on a flat colour without adding shading. I had rejected the idea of shading because I did not want the 2-D alebrijes to be representational of 3-D alebrijes. The purpose of the alebrijes was to identify the wildlife in the desert playfully and arouse the interest of the reader so they can investigate each character further. Manolessou (2012) discusses the role of schemata in building characters that are dependent on preconception. I too found that I was starting with a body frame and adding details onto this body frame, until it took a form that was recognisable and that I was happy with. Through the intuitive investigation of shapes and colours more characters started taking shape and a recurring theme of pattern making started appearing. Three informal categories of pattern were established:

- Floral, such as the one decorating the tortoise feet (Development shown in **Figures 105-111**)
- Geometric, such as the ones decorating the grasshopper (Development shown in **Figures 112-118**)
- Persian teardrops, such as the ones covering the roadrunner and coyote (Development shown in **Figures 119-229**)

I had not considered until this point the relevance of patterns in my thinking as a designer. As these patterns for the alebrijes emerged, I was able to relate to Potter's description of successful design as 'design derived from the creative reinvention of that which we already know' (2002, p.46). My life long preoccupation with patterns and repetition seemed to have found an outlet in these illustrations and I was able to identify with all three designs. The patterns are emblematic of the cultural ties I have with Britain, Greece and the Middle East.

6.3.7 Layout and Colours

The introduction of the alebrijes characters meant the background, which had developed with the gradual adjustments of a complementary set of colours (**Figures 229-234**), had to be recoloured. The soft colour palette was unable to accommodate the bright complementary colours of the alebrijes (**Figure 235**). I considered therefore what other colours could be used instead. I tried a number of combinations such as **Figure 236** and **Figure 237** but these held little consideration for the GITD element. What became apparent in the process was that removing the colour from the sky (**Figure 237**) showed that it wasn't relevant to the more abstract patterns

and colours of the alebrijes. Lowering the horizon (**Figure 238**) also made the landscape more graphic, giving me a larger canvas for the GITD.

The next stage of the project developed with the following in mind:

- The choice of colour for a character should not match, as far as possible, that of the animal it represented in real life
- That there was an balanced spread of colours across the landscape
- That there was an even spread of characters across the landscape both in the daylight and when using the GITD.

Figures 239 and 240 are representative snapshots of progress from one working period to another. I found at this point that breaks from the work were the best way to review changes with clarity.

The most challenging part of the design was colouring the cave on the far right of the landscape. **Figures 241-248** are a sample of the development process for this illustration. I had initially visualised two lions, a female and a male. This idea was compromised by space and by the colours of the cave. Balancing the darkness of the cave with the lightness off the outside, the lion, squirrel and Gila monster took several attempts. The decision to have one lion was extended to all the other animals I had considered to represent as pairs. Only the butterflies and the javelinas are repeated. The decision for the latter was two fold made because they are known to move as packs and that part of the landscape need a purpose. Every animal in the illustration if observed carefully has a purpose.

6.3.8 Glossary and Information Accuracy

My original intention was to fill both sides of the paper with illustrations. However, one of the limitations of using GITD ink is that the glow is three-dimensional. It can therefore be seen through even a 300gsm paper thickness. Tullet's space book (**Figure 69**) is printed on hardboard so there are no transparency issues. Isol's dream book (**Figure 70**) overcomes the hurdle by using bed linen like patterns to cover the back of every illustrated page, making the transition aesthetically pleasing and conducive to sleeping. I did not want to risk the confusion a second image, without GITD materials, would cause.

The two alternative ideas for the back were to write five short stories, one for each frame of the landscape, or a brief description for each animal. This way the reader

would not expect to see anything to happen from this side in the dark. According to Lee (2011, p.136)

‘Wordless picturebooks have the risk of becoming overly logical or explanatory when fueled with the anxiety that the reader might miss the storyline without the aid of words’.

I decided to follow the simpler approach of glossary with brief descriptions, that although explanatory does not interfere with the illustration and the GITD narrative.

Writing the glossary was an unplanned way of checking that the information of the landscape was accurate. I discovered that the written word held more weight than the illustrations. One example was discovering that only a particular butterfly lives in the foliage of the *Palo Verde*. Initially I had used the *Pipevine Swallowtail*, as I liked the contrast of the blue with the yellow (**Figure 249**). When I researched its habitat for the Glossary, I discovered that it lives in the *Dutchman’s Pipevine*. A new plant had to be created if the butterfly were to stay in the book. The *Dutchman’s Pipevine* (**Figure 250**) was placed near the cave as it mainly grows over rocky areas. The *Clouded Yellow* butterfly was subsequently created to live in the *Palo Verde*. The research carried out for each of the animals was also crucial in determining the position of the animals illustrated with GITD ink. This also led to several changes. During this time I was working on the project more intensely. I recorded that the time spent on creating and positioning the artwork took just as long as researching each of the animals.

6.3.9 Completed artwork

The artwork for the GITD element was created as a black outline to create a negative for the screen print. I worked on the GITD artwork as an extra layer in my original illustrator file. **Figures 251–253** show the final artwork that was used for the concertina. **Figures 254- 257** show the overlap of the colour and glow layers as they were printed for the dummy copies made. **Figures 258- 259** are a simulation of the expected outcome.

6.3.10 Cover and Paratexts

The cover of TWW was based on the design of the Nobrow Leporello series. The outside presents the book and the inside gives the reader a description of what the concertina illustrates. The wording for the inside of the cover is explanatory and its purpose is to set the scene for the concertina. Preparing this was straightforward. Apart from making the two maps, all of the artwork had already been completed and

my task was to present it in an orderly way. The choice of the background colour was almost instant. I tried two shades and immediately preferred the darker one. This confirmed for me that the project was complete. **Figures 260 and 261** show the completed artwork.

The purpose of the book is also reiterated in the QR code placed in the cover, inviting the reader to discover more about the animals and the three deserts via a website. My reason for adding this feature, even though it is only indicative, was to demonstrate the potential the book offers, for both the reader and the publisher. I have already discussed the increasingly inventive marketing strategies publishing companies pursue. The invitation for further interaction with the book on a digital level is conducive in holding the interest of the reader. It confirms that this is not a 'gimmicky' book but rather an inventive way to understand a concept and encourage scientific learning.

6.3.11 Practical Considerations

I have discussed the capabilities and limitations of GITD ink in children's picturebooks from the perspective of design but I have not yet discussed the technical considerations in making the prototype. For this research creating a physical copy of the proposed artwork was essential in understanding the effect of the GITD as much as the intimacy of the concertina structure. A 32-page book dummy accompanied by two completed spreads gives publishers enough information to visualise what the completed picturebook will look like if it is produced (Salisbury, 2004). As the TWW project did not fall into this established model I felt it was necessary for a prototype to be made to show as closely as possible what a published version would look, feel and glow in the dark like.

GITD pigments have to be suspended in a clear medium so they can absorb UV light and glow. Adding them to coloured paint therefore is not possible and the GITD layer has to be applied separately and over any paint or ink used. **Figures 262-266** show that different applications give different outcomes. Where a flat layer of ink was applied either using a vinyl sticker (**Figures 262-263**) or printmaking (**Figures 264-267**) the effect was stronger and uniform. Where paint was used the brushstrokes could be seen (**Figures 268-272**). The mark of the paintbrush was not desirable. I had already decided to use a technique that did not include textures so the GITD layer had to be equally uniform and flat. Although I had been able to achieve the flatness required using linocut prints, to achieve the level of detail of the

design I created for the GITD layer, I had no option other than to apply the GITD material using the screen printing technique. Commercially this process comes after the CMYK full colour litho print is produced and is often referred to by printers as 'adding a fifth colour'.

In contrast to screen printing ink, which can be applied directly onto most surfaces, because I didn't want to print on coated paper, the GITD ink required an adhesive to form a thin barrier between the GITD ink and the paper so that the pigments could bond onto the paper's surface without soaking into the paper. The problem the application of the adhesive presented was that it required two coats before the third, GITD layer, could be applied. This presented the following two challenges. Firstly having to get the registration correct three times for each sheet increased the opportunity for misalignment, particularly as I am not skilled at screenprinting. The second was to find a paper that could handle two coats of adhesive and a GITD layer without buckling.

My first approach for the printing was to use professional printers (that can cater for offset lithography) but the size of the concertina meant either a compromise in quality or a very high cost. A digital print, which was more affordable, would allow enough copies to be made but the shine of the ink on the paper did not represent the more intimate matt finish I wanted to achieve. The importance of the first impression created by the images as much as their physical presentation is discussed by Nodelman (1998) based on Arnheim's (1969, cited in Nodelman) observation that varnish in paintings created a feeling of detached serenity. A comparison of a satin finish print with a matt painting confirmed that my concerns were valid. The matt finish had the same intimacy that a painted alebrijes figurine has and I liked this, as I wanted the book to be an item the owner would cherish. In contrast the satin finish felt disposable and distant. I decided to print the artwork in my studio using an A3 inkjet printer knowing that the outcome would replicate that of the commercial litho process the closest. Several brands of paper were tested for their performance with both inkjet printing and accepting GITD layers of paint. The Hahnemuhle Photo Rag Duo 276gsm provided the best fit for the project.

The difficulty of my approach, and it was one I was aware of from the outset, was that with such a small print run there was hardly any margin for error. From the 8 copies of the artwork that were printed in the studio, at considerable cost, I was able to create three dummies. The alignment and folding could not have been achieved

without support from professional bookbinders, as in addition to the registration of the GITD adhesive and ink there was a slight discrepancy between the front and the back of the printout. Joining the four sheets to make one long print and subsequently fold into ten equal panels with joins at the folds was a laborious process and a ‘two-man’ job. The misalignment mistakes can of course be avoided with commercial presses that have grips to hold the paper in the same position. Although the dummies are not perfect fits they all provide a true example of what a published version of the concertina would look like (**Figures 273-275**).

6.3.12 A narrative interaction analysis for The Wilder West

Making a complete prototype for the GITD book allows us to see the effect of the GITD material and understand its role in creating a narrative for the book. I will use the Narrative Interaction Diagram to analyse the prototype.

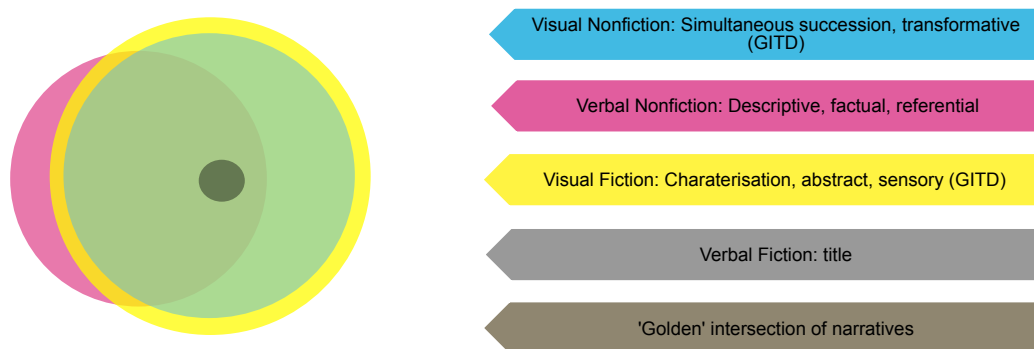


Figure xxxvi: Indicative narrative interaction analysis for The Wilder West prototype.

Verbal nonfiction narrative

The verbal narrative is located both on the book jacket and the concertina. The text on the inside of the book jacket provides an explanation for the concept of the book including an overview of the hot deserts, an explanation for the homage to *alebrijes* and instructions for using the GITD element. The text on the back of the concertina is a glossary of the 50 different species spread across the landscape with snippets of information about each one. It provides clarification, should it be required, for the more abstract alebrijes illustrations.

Visual nonfiction narrative

The nonfiction story, that some animals and plants are nocturnal, is relayed visually and is located predominantly in the glow in the dark material. However the accuracy in the shapes, proportions and positioning of the characters as well as the small plots from simultaneous succession, such as the buds growing and the caterpillar becoming a butterfly, also provide narrative. Although there is little movement from most of the characters there is an anticipation that all the creatures are about to move. Some look directly at the reader, others are communicating with each other. This is a visual narrative of expectation, offering many opportunities for discussion and further exploration. The QR code on the dust jacket invites the reader to communicate further.

Out of the 50 species illustrated, 11 species can only be seen at night, 19 species can be seen at night and day and 20 species can be seen only in daylight. There is a balance therefore between what can be seen in the day and what can be seen at night and therefore the transition from light to dark provides opportunity for discussion as well as an understanding of the terms nocturnal and diurnal.

Visual Fiction narrative

This part of the book comes from the Alebrijes designs and patterns found mainly on the animals. They stand like toys waiting for someone to play a game offering counterpoint by characterisation (Nikolajeva and Scott, 2006).

Verbal Fiction

The title of this picturebook is the only verbal element that has a playful side to it. It uses the reader's knowledge of the term 'The Wild West' to suggest that this is a book about a particular area but from a different perspective.

The Intersection

Although the 'golden' intersection is not a large one, the overlap of the other narratives is substantial and based largely on the GITD element, which contributes both a fiction and nonfiction element. It proves that enhancements to nonfiction narratives can be used to strengthen the nonfiction message.

Chapter 7: Conclusion

The research was carried out to provide an understanding of the role of narrative in nonfiction picturebooks. The approaches outlined in Chapter 3 were instrumental in the way the research developed in that they provided a broad starting point for the research. That the research was conducted within a theoretical framework that allowed movement between three different aspects (design practice, design exploration and design studies) allowed changes in the actions taken without a need to adjust the aim of the project. This allowed the research to evolve organically, placing me as a researcher at the core of the research topic. The conclusions drawn are therefore from the perspective of the artist-researcher as intended by the initial research question.

Adapting Established Narratives

The difficulties encountered during the first two approaches highlighted that there were differences between the purpose of fiction and nonfiction narratives from both a visual and verbal perspective. Using an established narrative and trying to adapt it to a different purpose meant I had to consider the purpose of the established narrative first. Without this unorthodox attempt at creating a picturebook, it is not certain that I would have come to the same conclusion; namely, that regardless of how intertwined the verbal and visual aspects of a picturebook are, contained within them are elements of fiction and nonfiction and these two elements contribute equally to the overall experience and function of the picturebook.

Narrative Interactions

The concept for the narrative interaction diagram and the subsequent analysis provided a confirmation that there are different narrative directions from a fiction/nonfiction perspective. When these narratives are working together they show a higher level of interaction and the book is more exciting. Initially the model was conceived as a way with which to understand the role of the nonfiction narrative. Nonetheless the analysis was carried out using published picturebooks covering a broad range of subjects and therefore implied that the model can be applied to any picturebook and not just those of nonfiction content. In the last chapter I used the model to analyse the GITD prototype. The intersection shows that the GITD material is integral to the message of the book and identifies that this is a nonfiction picturebook with a fictional element. The model could therefore, also be used by picturebook artists that want to understand more about their way of working.

Opportunities for Nonfiction

The research question identified that simultaneous succession is a useful concept for introducing nonfiction facts into fictional narratives particularly when the visual narrative is static. Picturebook artists could consciously employ this idea, should they wish to enrich their work with a nonfiction dimension.

Glow in the dark

The use of the GITD material has demonstrated that the use of enhancements in nonfiction picturebook can be integral to the narrative (visual or verbal) and should be considered a valuable tool in books with educational purpose. The GITD prototype created as part of this research presents the capabilities of the material, as well as how a visual narrative can evolve both fictionally and factually.

For picturebook artists

Understanding the role of narrative in terms of fiction and nonfiction is beneficial for picturebook artists from all disciplines. It is my hope that this research will enthuse those artists that work with more fictional ideas to consider further enriching their stories with nonfiction and equally inspire those artists that prefer to cover nonfiction topics to find their voice in narrating either, visually, verbally or both.

7.1 Further Research

As this research was in many ways the first of its kind it inevitably leads to many opportunities for further research. I hope that future researchers will be able to use the findings and combine them with their observations for new ideas and understandings to develop in this field. The following suggestions are indicative of opportunities perceived during the course of the research that, had they been investigated further, would have altered the scope of the research question.

Whilst the adapted Interaction Design model as presented by Fallman (2008) allowed the consideration of a number of perspectives, the thesis subject limited the consideration of dimensions (as defined by the model) that exist between the different research approaches. The use of this model in a research project inclusive of the relationship between the publisher and author, could provide further understanding of the dynamics between the picturebook as a an art and a commodity.

The Narrative Interaction model has provided a subjective analysis of picturebooks to better understand the relationships between narratives. The model would benefit from further analysis to establish a more objective set of criteria and make the model a tool for evaluating picturebooks from different perspectives. The development of the model so it can be linked to databases of picturebooks, could result in a particularly useful reference tool that could enable educators to identify and subsequently use a broader range of picturebooks in their curriculum.

The new understanding of the narrative capabilities of GITD presented in this research, suggest that an obvious area of exploration lies in the field of enhanced picturebooks. Printing technologies are developing and making the option of using specialist inks, such as photochromic (changes colour in UV light), thermochromic (changes colour with temperature) and hydrochromic (changes colour in water) and finishes such as fragrance (adds a particular smell), textures (adds a particular feel), electric paint (conducts electricity) and magnetic paint, more commonplace. Understanding the use of these materials will be useful for both picturebook artists and publishers.

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Appendix

Appendix 1: Dive into the A B Sea

A is for two angelfish as pretty as can be
B is for a boat far away at sea
C is for a clownfish giving me a smile
D is for dolphins jumping all the while
E is for the slippery eel waiting for its prey
F is for the flying fish that quickly get away
G is for the great white shark gobbling things fast
H is for the herrings safely home at last
I is for the ice fish making me feel cold
J is for the jellyfish, their sting is like a scald
K is for the kissing fish's pouting little jaws
L is for the lobster and his snappy claws
M is for the manta ray like a floating cloak
N is for the needlefish giving it a poke
O is for the octopus full of dark dark ink
P is for the pretty pearls, white, cream, black and pink
Q is for queen parrotfish pink and green and blue
R is for the reef a truly splendid view
S is for the seahorse galloping away
T is for the turtles hatching in the bay
U is for the fish that is always upside down
V is for the vampire squid which wears a funny gown
W is for the whale that makes a great big wave
X is for xiphias always feeling brave
Y is for the yellow fin as bright as morning sun
Z is for the zebra fish that wants to have some fun.

Appendix 2: The story of Martina

Martina's story starts with her finding a coin as she is sweeping her porch. Excited with her good fortune she deliberates on how to make the most of it. She decides it would be best spent on buying makeup to make herself beautiful. This is the most frivolous of her ideas but Martina justifies it with plans to use the makeup to attract a husband. Indeed once Martina applies her new makeup, she immediately attracts the attention of all the animals in the farmyard. One by one they approach her and propose. Each time an animal approaches her Martina asks them what noise they will make and each time she finds the noise too disturbing and refuses the proposal. Finally Mr. Perez, the mouse, approaches her. Martina likes his soft, squeaking sound and agrees to marry him the next day. All is well until Martina realises one morning that her makeup has run out. Before she heads to the shops to buy some more she warns Mr Perez that she has left a pot of noodles cooking and he is not to go near it. On her return she discovers Mr Perez has succumbed to his greed and in doing so has accidentally fallen into the pot of noodle soup and drowned. The story ends with Martina singing a sad lullaby.

Appendix 3: Martina and Mr Perez

1

Martina the Cockroach lived in a tiny house underneath the grand kitchen of the grandest house in Havana. One sunny morning, as Martina was sweeping the tiny garden of her tiny house, she found a gold coin!

2

"What incredible luck!" she said to herself excitedly. "Hmmm, I wonder what I could buy?"

"I know! I could buy some needle and thread! That would be useful for mending my clothes... but what if I were to prick myself? Ouch, that would be so horrible."

She thought some more...

"I know! I could buy some perfume so I can smell nice! But what if I were to spill it? Ooooh, that would be terribly sad."

She was still deep in thought when a beautiful butterfly passed by. Martina looked at her wings longingly.

"I know!" she exclaimed, "I will buy some makeup for my wings then I will look just beautiful as all the butterflies in the garden!"

And off she flew to the garden shop.

3

Martina spent that evening applying her new makeup. She was a splendid artist and when she was finished, her wings looked remarkable, more beautiful than any butterfly she had ever seen.

The next day Martina danced about in the garden showing everyone her new wings. The animals passing by admired her; she was the most beautiful creature they had ever seen.

4

Pig walked over slowly. As he started dancing with Martina, he cleared his throat and said, "Wow Martina, you look so beautiful today! Will you marry me?" Martina looked at Pig. He looked very strong. "Perhaps it would be good to have a strong husband," she thought, so she replied, "That depends... Tell me, Pig, what sound do you make at night?"

"At night I sleep but in the day I make the loudest OINK OINK OINK!" grunted Mr. Pig.

"Oh no, no, no!" said Martina, "I would not like that at all. I am sorry, Mr. Pig, I cannot marry you". And she continued to dance.

5

Goat was munching grass when he noticed Martina. He quickly swallowed his mouthful, skipped across the yard and started dancing with Martina. "Why, Martina!" he said. "You look sensational! Will you marry me?" Martina looked at Goat. "He looks very clever," she thought, "perhaps he is the one for me". So she asked him, "Tell me, Goat, what sound do you make at night?"

"At night I sleep but when I am awake I make the loudest BA BA BAAAAA!" bleated Goat.

"Oh no, no, no!" said Martina, "I would not like that at all. I am sorry, Goat, I cannot marry you". And she continued to dance.

6

Next, Rooster, who had been watching with great interest strutted across the yard, puffed up his chest and started dancing with Martina. "Martina, lovely Martina!" he exclaimed. "You look gorgeous! Will you marry me?" Martina looked at Rooster. He looked very striking. Then she asked him, "Tell me, Rooster, what sound do you make at night?"

"At night I am asleep but first thing in the morning I make the loudest COCK-A-DOODLE-DOOOOOOOOOO!" crowed Rooster.

"Oh no, no, no!" said Martina, "I would not like that at all, I am sorry, Rooster, I cannot marry you." And she continued to dance.

7.

Dog bounded over to see what was happening. Seeing Martina was on her own again, he started dancing with her. "Hello, Martina!" he said. "You look radiant today! Will you marry me?" Martina looked at Dog. He looked very playful. "Maybe he

would be the right husband?" she thought, so she asked him, "Tell me, Dog, what sound do you make at night?"

"Well, I like to sleep at night but when I am up I make the loudest WOOF WOOF WOOF!" barked Dog.

"Oh no, no, no!" said Martina, "I would not like that at all. I am sorry, Dog, I cannot marry you". And off she flew.

8

Martina was now tired from all the dancing and she decided to head home. On the way she saw Mr Perez the Mouse watering his flowerpots. He looked up at Martina and smiled. "Why, Martina!" he said. "You are so lovely! Why don't you marry me?" Martina looked at Mr Perez. He looked very gentle and timid, so she asked him, "Tell me, Mr Perez, what sound do you make at night?"

"Well, Martina, all through the night I squeak, squeak, squeak," whispered Mr Perez.

"That is such a sweet, soft sound. I could listen to that all night," said Martina smiling.

"Yes, Mr Perez, I will marry you tonight!"

9.

So Martina and Mr Perez got married and lived underneath the grand kitchen of the grandest house in Havana. They liked to have parties with their friends and to dance and sing all night long. Martina liked to show off her splendid wings and Mr Perez always admired her.

One day, as Martina was preparing some noodle soup, she noticed her makeup was starting to fade. "Oh dear," she thought, "what if Mr Perez should see me without my wonderfully painted wings. What will he think of me then?" She decided she had to go out to buy some more make-up urgently! Without a moment's hesitation, she left Mr Perez to look after the noodle soup and off she flew to the garden shop

10.

She was just about to walk through the shop door when Martina heard the soft cries of her beloved mouse.

“Help! Help! Martina! Somebody, help me! HEEELLPPPP!

11.

Martina flew back as fast as she could.

There in the middle of the big pot of noodle soup was Mr. Perez, tangled up and sinking fast. Without a moment's thought, Martina dived in to save him.

12.

As she pulled Mr. Perez out of the thick noodle soup, Martina noticed her wings had lost all their wonderful colours and patterns. She wrapped Mr. Perez up in a blanket and started to cry.

Not only had Mr. Perez almost drowned but now he would have to see what she really looked like.

13

Mr. Perez, guessed what Martina was thinking, so he smiled at her and whispered. “My sweet Martina, even if you had no wings, you’d still be perfect for me”.

14

To this day Martina and Mr. Perez live underneath the grand kitchen of the grandest house in Havana where they sing and dance all night long.

And Martina only paints her wings on very special occasions!

Appendix 4: Martha Mystery and the Missing Art of Barcelona

Martha Mystery is a young detective girl with an extraordinary amount of knowledge and many skills but she can be absent minded. Thankfully she can rely on her sixth sense, otherwise known as Patch, her pet Jack Russell. Patch is always ready to sniff out trouble and save the day. In this adventure, Martha and Patch are taking a holiday from their usual detective work and visiting Barcelona to see some art. As they make their way around the city and visit key sites, Martha is oblivious that a mystery is unfolding before her. First the lizard at Parc Guell disappears, next some of Miro 's statues... Even the chimney stacks from La Predrera seem to be moving. Important artwork is disappearing every day but Martha does not seem to notice. Of course Patch as always is prepared and fully aware. The text guides the reader through Martha's sightseeing activities questioning her observations, leaving the illustrations to provide the answers. The story gives the reader the opportunity to wonder around Barcelona learning about art from Martha's observations as the mystery unravels. Text and visual narratives come together towards the end of the story when Martha looks through the photographs they have been taking only to realise she has been on the thief's trail all along. The story ends with Martha and Patch enjoying a rollercoaster ride at the Tibidabo amusement park with views of the whole city.

Appendix 5: The Dragon's Fruit Quest

William Dragon is on a quest
To find the fruit that suits him best
He looks to see where it may be
Goodness! He's got to cross the sea
I know he thinks...

"I'll take my favourite princess
The one that never wears a dress."

For twenty nights and twenty days
They sail through oceans in a daze
When they have reached Mexico
They do not know quite where to go

A friendly lizard lends a hand
He leads the way across dry land
But when they reach their destination
The dragon stops in hesitation...

There are no dragons to be seen
Everything seems so serene
There are no dragons feasting fruit
Just one small owl hoots a hoot

It is getting late now
And they must have a rest
It simply is too dark
To continue with their quest
They set up camp and light a fire
And fall asleep so very tired

But they are woken in the night
And what is this they see?
Hundreds of dragons are in flight
Should they quickly flee?

They flap their wings with maddened
flair.... But... They have small snouts
and short soft hair

They have no tails,
They have no scales...
They have just very tiny claws
And certainly no great big jaws

These are not dragons they both say
They are small bats having a play
They watch them dip into the flowers
Sucking the pollen takes eight hours

From flower to flower they must fly
And as they do dust fills the sky
It's pollen covering the nation
It's called plant cross pollination

At dawn the bats all fly away
They will back another day
But this day wont be for a year
And this is normal have no fear.

The flower, the Queen of the night
Wilts leaving just a stem
From this will grow the dragon fruit
Bright pink just like a gem

"We came here looking for a dragon
Princesses, knights and queens
We weren't prepared for nature's beauty
And these stunning midnight scenes"

A month goes by, fruits are collected
The visitors must pack
The one thing that they all agree on
Is next year they'll be back

